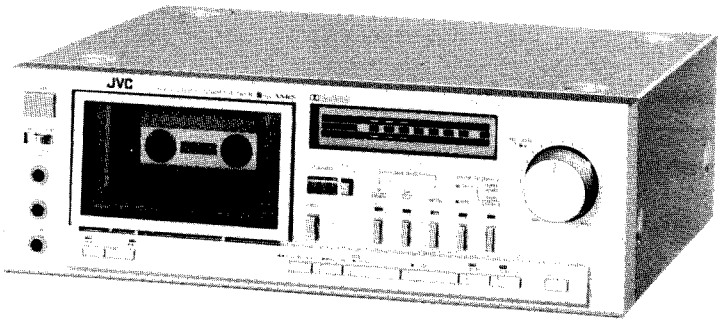
JVC

SERVICE MANUAL

MODEL

D-E5A/B/C/E/J/U



No. 4194
December 1980

Contents

	Page
Specifications	2
Features	3
Controls and Connections	3
Main Parts Location	4
Operating Principle of Full-logic Mechanism	5
Removal of the Main Parts	6
Main Adjustments	9
Integrant Circuit	14
Block Diagram	17
Standard Schematic Diagram (Amplifier Circuit)	18
Standard Schematic Diagram (Mecha. Control Circuit)	19
Wiring Connection	20
Enclosure Assembly and Electrical Parts	21
Mechanical Component Parts	22
Enclosure Assembly and Electrical Parts List	23
Mechanical Component Parts List	26
Main Amp. P.W. Board Parts	29
Mecha. Control P.W. Board Parts	30
Main Amp. P.W. Board Parts List	31
Mecha. Control P.W. Board Parts List	34
Other P.W. Board Parts	36
Other P.W. Board Parts List	37
Maintenance	38
Packing, Packing Material Parts List	39
Accessories	Back Cover

Specifications

Type : Component stereo cassette deck
Track system : 4-track, 2-channel
Tape speed : 1-7/8 inch/sec (4.8 cm/sec)
Frequency response:
(0 VU recording)
Metal tape *1 30–12,500 Hz (± 3 dB)
SA/Chrome tape *2 30–8,000 Hz (± 3 dB)
SF/Normal tape *3 30–8,000 Hz (± 3 dB)
(–20 VU recording)
Metal tape *1 20–18,000 Hz
(30–16,000 Hz ± 3 dB)
SA/Chrome tape *2 20–18,000 Hz
(30–16,000 Hz ± 3 dB)
SF/Normal tape *3 30–17,000 Hz
(30–15,000 Hz ± 3 dB)
Surpasses DIN 45 500.
Note: *1 ... SCOTCH METAFINE or Equivalent
*2 ... TDK SA or Equivalent
*3 ... MAXELL UD or Equivalent
S/N ratio : 60 dB (from peak level, weighted, Metal tape)
The S/N is improved by 5 dB at 1 kHz and by 10 dB above 5 kHz with ANRS on.
(DIN 45 500 weighted)
Effect of Super ANRS: (normal tape)
Improvement of S/N: the same as with ANRS
Improvement of frequency response:
0 VU recording; 6 dB at 10 kHz
+5 VU recording; 12 dB at 10 kHz
Improvement of distortion:
0 VU recording; 3% or less at 10 kHz
+5 VU recording; 3% or less at 10 kHz
Wow and flutter : 0.05% (WRMS)
0.17% (DIN 45 500)
Crosstalk : 65 dB (1 kHz)
Harmonic distortion: K3; 0.4%, THD; 1.0%
(metal tape, 1 kHz 0 VU)

Bias : AC bias
Erasure : AC erasure
Heads : SEN ALLOY head for recording/playback, 2-gap Ferrite head for erasure
Motors : Electronic governed DC motor (for Capstan)
DC motor (for Reel)
Fast forward time : 90 sec or less with C-60 cassette
Rewind time : 90 sec or less with C-60 cassette
Semiconductors : 11 ICs, 57 transistors, 54 diodes, 11 LEDs
Input terminals
Mic jack x 2 : Max sensitivity; 0.2 mV (–72 dBs)
Matching impedance; 600 Ω – 10 kΩ
Input jack x 2 : Min. input level; 80 mV (–20 dBs)
Input impedance; 100 kΩ
Output terminals
Output jack x 2 : Output level; 300 mV
Output impedance; 6 kΩ
Phones jack x 1 : Output level; 0.3 mW (8 Ω)
Matching impedance; 8 Ω – 1 kΩ
Power requirement: AC 120 V, 60 Hz (D-E5C/J)
AC 240/220/120 V, 50/60 Hz (D-E5A/B/E)
AC 240/220/120/100 V, 50/60 Hz (D-E5U)
Power consumption: 17 W
Dimensions : $13\frac{3}{8}$" (340 mm) W
$4\frac{1}{2}$" (115 mm) H
$9\frac{7}{8}$" (250 mm) D
Weight : 10.6 lbs (4.8 kg)

Design and specifications are subject to change without notice.

Features

- Compact size (Panel size = 340 mm W x 110 mm H)
- 2 motor full-logic control mechanism
- Metal tape compatibility
- Music scanning
- IC-built ANRS and Super ANRS
- Sen-Alloy (SA) head for recording/playback
- 2-gap SA head for erasure
- LED meters (Peak level indicators) with two colors
- CUE/REVIEW button
- REC MUTE button
- Timer recording and playback available.

Controls and Connections

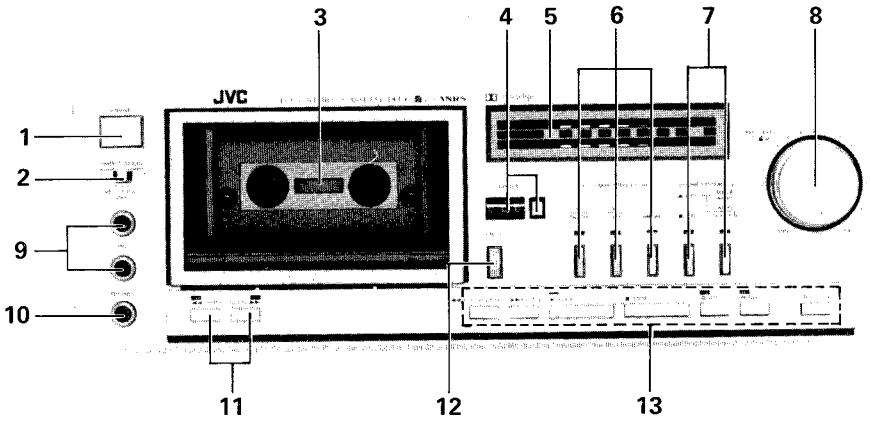


Fig. 1

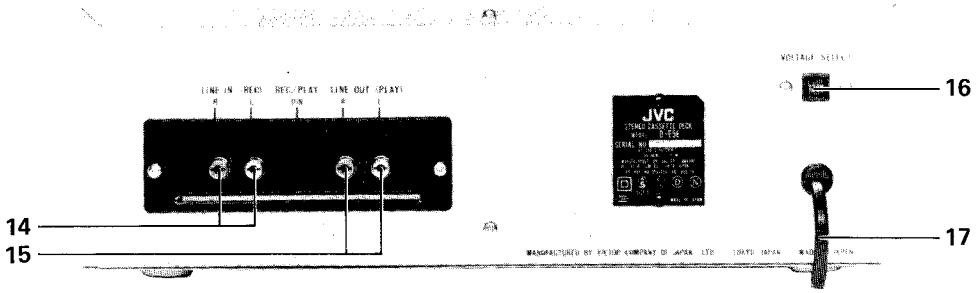


Fig. 2

1 POWER switch
2 TIMER STANDBY switch
3 Cassette holder
4 Tape COUNTER/Counter reset button
5 Multi-peak level indicator
6 TAPE SELECT switch with indicators
($\frac{SF}{NORM}$ – $\frac{SA}{CrO_2}$ – METAL)
7 ANRS switch with indicators
(ON, OFF – SUPER, ANRS)
8 REC LEVEL controls
(Forward knob – Left channel
Rearward knob – Right channel)
9 MIC jacks
10 PHONES jack
11 MUSIC SCAN buttons
12 EJECT button
13 Cassette operation buttons
◀◀ REW/REVIEW button
▶▶ FF/CUE button
▶ PLAY button with indicator
■ STOP button
○ REC button with indicator
❚❚ PAUSE button with indicator
REC MUTE button
14 LINE IN (REC) terminals
15 LINE OUT (PLAY) terminals
16 Voltage select switch (D-E5A/B/E/U)
17 Power cord

Main Parts Location

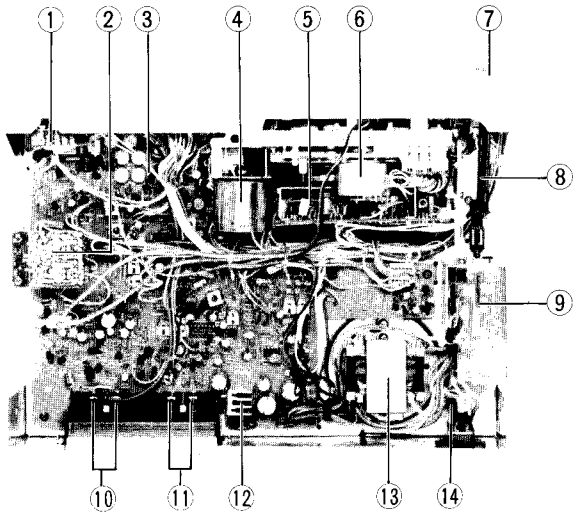


Fig. 3

1. Recording level control P.W. board ass'y
2. Microphone amp. P.W. board ass'y
3. Main amp. P.W. board ass'y
4. Capstan motor
5. Mecha. control P.W. board ass'y
6. Reel motor
7. Front plate ass'y
8. Remote bar (for power switch)
9. Power switch P.W. board ass'y
10. Pin jacks (for LINE IN)
11. Pin jacks (for LINE OUT)
12. Heat sink for transistor
13. Power transformer
14. Power cord

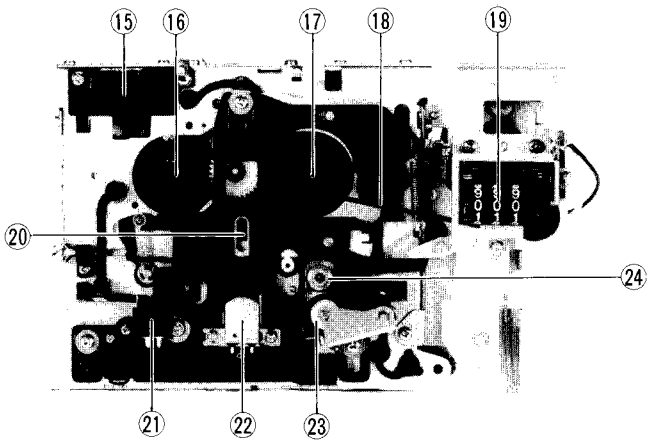


Fig. 4

(Mechanical parts)

15. Switch holder
16. Supply reel disk ass'y
17. Take-up reel disk ass'y
18. Counter belt
19. Counter
20. Slide base ass'y
21. Erase head
22. REC/PB head
23. Pinch roller arm ass'y
24. Capstan

Operating Principle of full-logic Mechanism

This mechanism is a 2-motor, 1-solenoid full-logic system which has been developed mainly for low power consumption, and lightweight compactness.

During operation of the D-E5, the solenoid serves only as the trigger for switching-over functions. Force for switching operation is derived from the flywheel gear coaxially fixed to the flywheel.

To ensure smooth, accurate operation, a small solenoid having low power consumption is used; additionally this solenoid has a pulling time set for short, middle and long periods (intermittent operation) which are the basis of all functions of the D-E5.

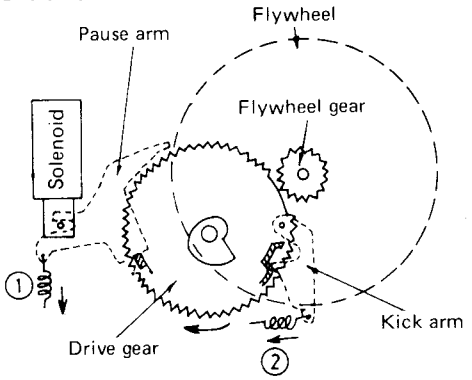


Fig. 5

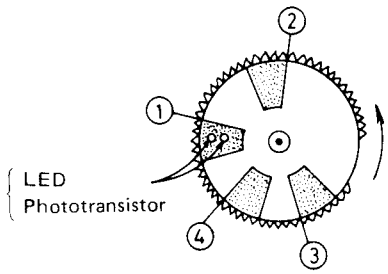


Fig. 6

1. When the mechanism operating button is pressed (power ON), the solenoid is energized, thus attracting the locked pause arm by spring ①.
2. When the drive gear is released from the pause arm it is slightly turned clockwise by spring ②. At this time, the drive and flywheel gears engage with each other to transmit the motive power for the switch-over operation.

NOTE: The flywheel gear, driven by the capstan motor by a belt, is already rotating when power is ON. Fig. 6 shows the rear side of the drive gear. Here, a change from black to silver zone is photoelectrically detected by a LED and phototransistor.

Solenoid Pulling Time (Energizing Time):

- Short (when point ① passes the photocoupler.)
  ➡ Stop, Fast Forward, Rewind
  Stop: The reel motor is turned off.
  Fast Forward: The reel motor rotates forward.
  Rewind: The reel motor rotates reversely.
- Middle (when points ① and ② pass the photocoupler.)
  ➡ Pause, Cue, Review, Select
  Pause: The reel motor is turned off.
  Cue, Review, Select: The reel motor rotates forward or reversely.
- Long (when points ①, ② and ③ pass the photocoupler.)
  ➡ Record, Playback
  Record, Playback: The reel motor is turned off.

NOTE: When points ①, ②, ③ and ④ pass the photocoupler. ➡ Confirm that the switch-over operation has been completed.
Each switch-over operation is completed at one rotation of the drive gear.

Solenoid pulling time		Reel motor	
		OFF	ON
Short	➡	Stop	Fast Forward, Rewind
Middle		Pause	Cue, Review, Music scan
Long		Playback (Record)	

■ Block Diagram of D-E5 Full-Logic Mechanism Control Circuitry

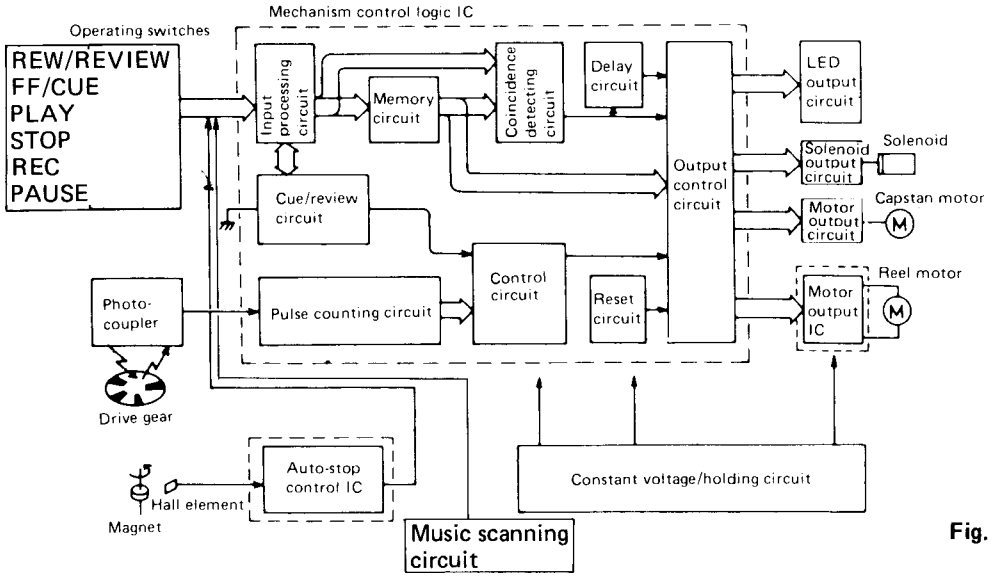


Fig. 7

Removal of the main parts

Observe care in handling the parts since the parts are small in size and the distance between them are short due to a deck design aimed mainly at compactness and high performance.

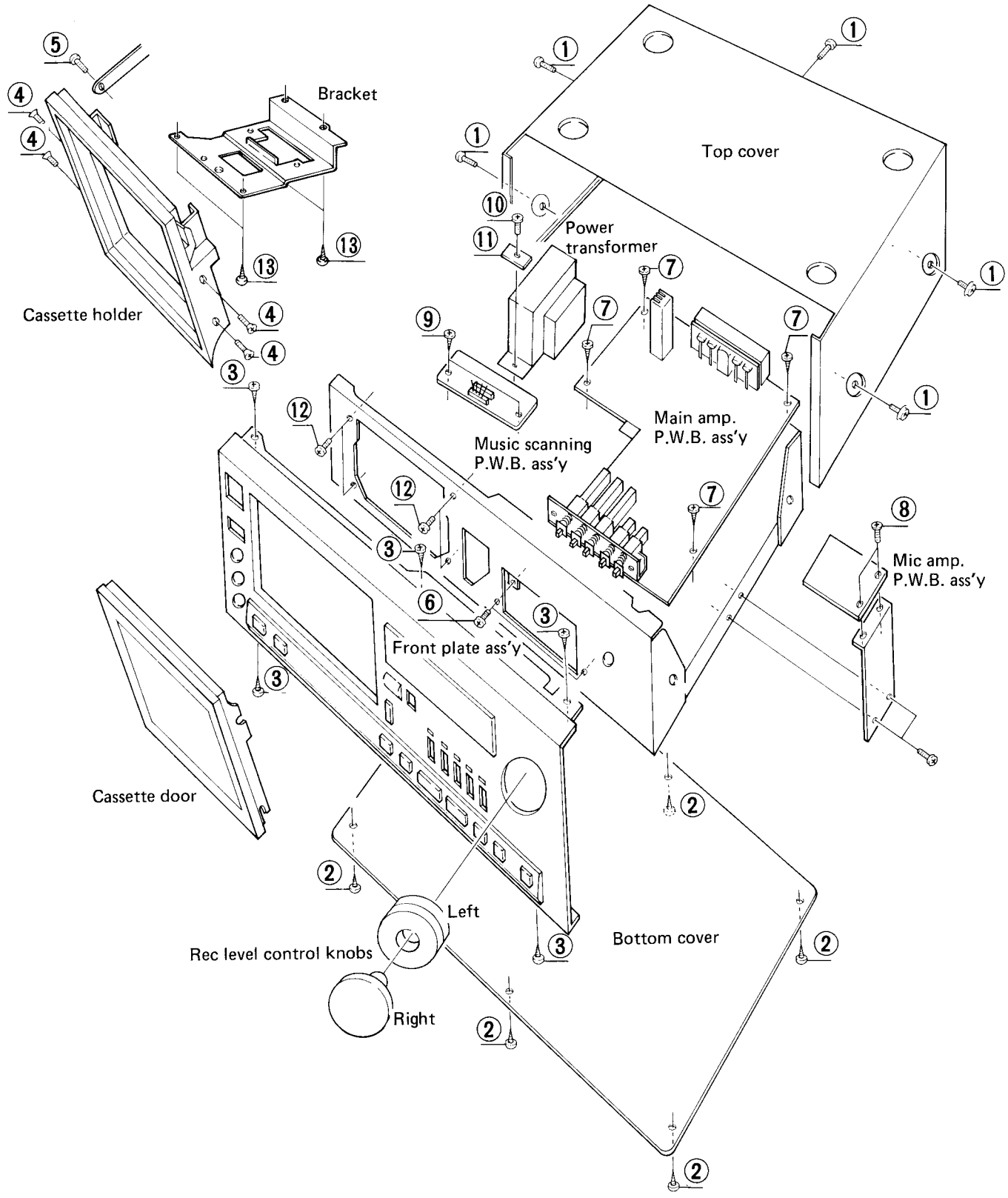


Fig. 8

Enclosure assembly parts

1. **Cassette door**
   To open the cassette door, push on the eject button. Slide off the cassette door upwards to unlock its pawls of both sides.
2. **Top cover**
   Remove 5 screws (1) fastening the top cover.
3. **Recording level control knobs**
   Pull off them forward.
4. **Bottom cover**
   Remove 6 screws (2) fastening the bottom cover.
5. **Front plate assembly**
   Remove 9 screws (3) (3 screws on upper side and 6 screws on bottom side) fastening the front plate assembly.
6. **Cassette holder**
   Remove 4 screws (4) (left and right ..... 2 screws on each).
   Remove a screw (5) fastening the arm of gear oiled-damper.

Electrical parts

1. **Microphone amp. P.W.B. assembly**
   Remove 2 screws (8).
2. **Main amp. P.W.B. assembly**
   Remove 2 screws fastening the pin jack cover.
   Remove 2 screws (6) fastening the switch from the front cover.
   Remove 4 screws (7) fastening the main amp. P.W.B. assembly.
3. **Music scanning P.W.B. assembly**
   Remove 2 screws (9).
4. **Power transformer**
   Remove 2 screws (10) and 2 special washers (11).

Mechanical assembly

1. Remove connectors of REC/PB head and erase head on main amp. P.W.B.
2. Remove connector on music scanning P.W.B.
3. Remove 4 connectors on mechanical control P.W.B.
4. Remove 4 screws (12) fastening the mecha. ass'y to the front bracket.
5. Remove 2 screws (13) fastening the bracket to the chassis.
   Remove 2 screws (13) fastening the bracket to the mecha. assembly.

Mechanical parts

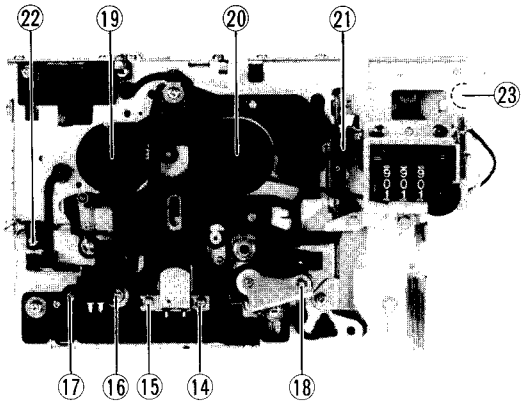


Fig. 9

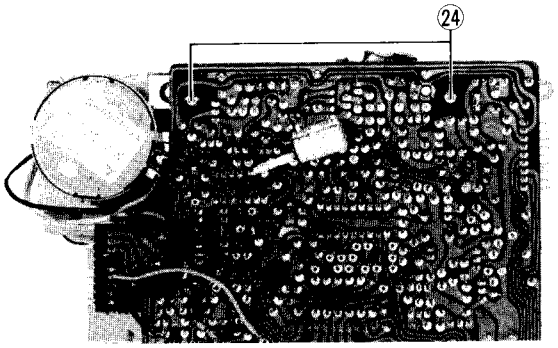


Fig. 10

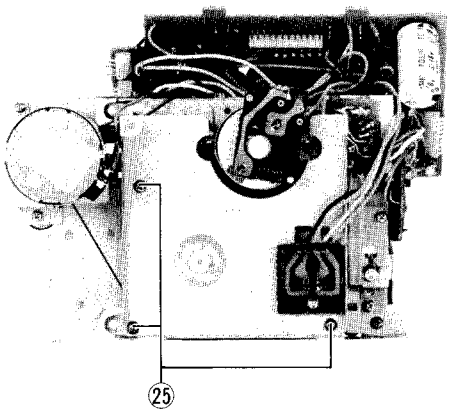


Fig. 11

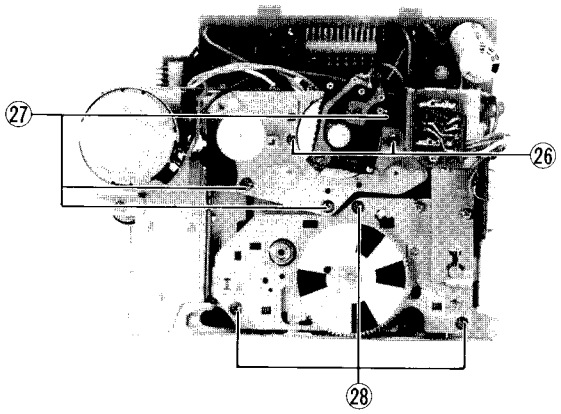


Fig. 12

1. **REC/PB head**
   Remove a screw (14).
   Remove a screw (15) for adjustment.
2. **Erase head**
   Remove a screw (16).
   Remove a screw (17) for adjustment.
3. **Pinch roller arm ass'y**
   Remove an E-ring (18) holding its assembly.
   Pull it off from the shaft.
4. **Supply reel disc**
   Pull out the reel disc stopper (19) and pull out its disc from the shaft.
5. **Take-up reel disc**
   Pull out the reel disc stopper (20) and remove the counter belt (21), pull out its disc from the shaft.

   Note: (1) Remove the reel disc stoppers with a piece of sheet metal inserted between the reel disc and the stopper. (When assembling the reel disc, the stopper need a new parts. The stopper cannot be used again.)
   (2) Be careful not to stain the counter belt.
6. **Leaf switch**
   Remove a screw (22).
7. **Capstan motor**
   1) Remove a screw (23) fastening the rubber stopper.
   2) Remove the capstan belt from the motor pulley.
   3) To remove the motor, turn it in counterclockwise direction and pull it out backward (with 3 cushions and 3 screws for fastening the motor).
8. **Mecha. control P.W.B. assembly**
   Remove 2 screws (24).
9. **Flywheel holder**
   Remove 3 screws (25).
10. **Reel motor**
    Remove 2 screws (26) and pull off backwards. (When removing the reel motor, remove the mecha. control P.W.B. ass'y only — need not remove the flywheel holder.)
11. **Flywheel assembly**
    1) Remove the flywheel holder (see item 9).
    2) Remove the take-up belt.
    3) Remove the capstan belt.
    4) Pull out the flywheel ass'y backwards, and be sure to remove a washer for oil cutting.

    Note: (1) When replacing the flywheel, be sure to employ washers and spring.
    (2) Be careful not to soil the belt.
12. **Reel disc ass'y unit**
    1) Remove the flywheel holder (see item 9).
    2) Remove the reel motor (see item 10).
    3) Remove the flywheel assembly (see item 11).
    4) Remove the counter belt from take-up reel disc.
    5) Remove 3 screws (27).
13. **Drive gear ass'y unit**
    1) Remove the flywheel holder (see item 9).
    2) Remove the flywheel assembly (see item 11).
    3) Remove 3 screws (28).

Main Adjustments

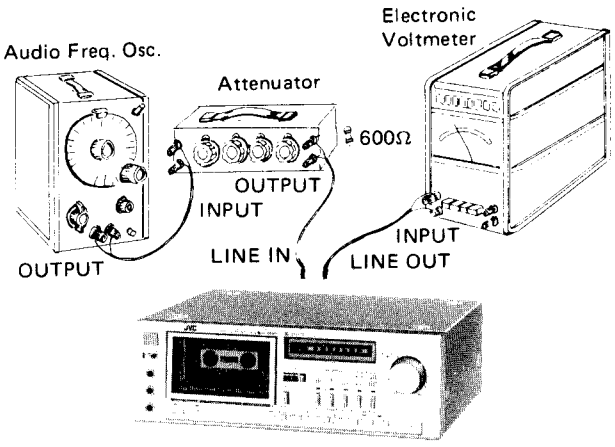
[I] Equipment and measuring instruments used for adjustment

1. Electrical adjustment

1) Electronic voltmeter
2) Audio frequency oscillator (range: 50 – 20 kHz and output 0 dB with impedance 600 Ω)
3) Attenuator
4) Standard tapes for REC/PB
   Maxell UD – SF tape
   TDK SA – SA tape
   SCOTCH METAFINE – Metal tape
   } or equivalent
5) Reference tapes for playback (JVC Test Tape)
   VTT-658 (for head azimuth adj.)
   VTT-656A-A (for motor speed, wow flutter adj.)
   VTT-664 (for Reference Level 1 kHz)
   VTT-675N (for playback frequency response)
6) Resistor 600 Ω (for attenuator matching)

2. Mechanical adjustment

1) Torque testing cassette gauge
2) Blank tape (C-120) for tape running checker.

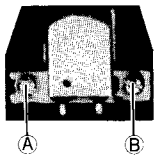
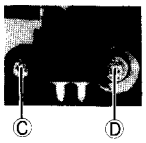
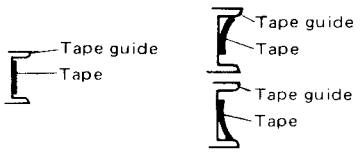


D-E5

Fig. 13

[II] Mechanical adjustment

(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting record/playback head position 	1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT-658 test tape. 3. Adjust the head angle with the screw (A) until the reading of the electronic voltmeter becomes maximum for both channels. 4. After adjusting, set the screw with screw bond.	Screw (A)	Maximum	If the head is worn, disconnected or exceedingly magnetized so as not to provide the necessary characteristics, replace it with a new one. After replacement, the head position adjustment as well as the playback level adjustment, the bias current adjustment and the recording level adjustment are all necessary. If the output difference between the left and right channels exceeds 3 – 4 dB, the head is defective. Replace it with a new one.
Adjusting erase head height 	1. Turn the adjusting screw for aligning the erase head until it stops. Then, turn the screw in the reverse direction by 180° (a ½ revolution). 2. Employ a special cassette (C-120) from which parts of the casing, where the erase head, record/playback head and capstan engage, has been cut away. Perform tape transport with the cassette tape. Adjust the screw (C) until the tape runs in the center of the erase head tape guide. Correct / Incorrect 	Screw (C)		Be sure to perform this adjustment after replacing the erase head.

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting motor speed	Connect a speed meter (an electronic counter) to the LINE OUT terminals. Play back the VTT-656 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the motor	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking play-back torque	Employ a torque testing cassette gauge for the checking, or remove the cassette cover and use a torque gauge.		40–70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Checking wow and flutter	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT-656A-A test tape. Check to see if the reading of the meter is within 0.05% (WRMS).			If the reading becomes moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.

[III] Repair of wow flutter

If wow and flutter increase, check the following points. If there is defect in revolving parts, the wow and flutter generated will increase in proportion to the number of revolutions.

Play a 3000 Hz test tape, and defective part can be detected from the sound.

Section	Trouble	Repair
Capstan and flywheel	Capstan shaft has excessive run-out. Flywheel turns heavily. (shaft seisure, thrust play, etc.)	Replace flywheel. Clean the capstan shaft and the flywheel circumference.
Pinch roller	Rough rotation (Deformation scratches, or dust) The angular position of the pinch roller is not correct. The pinch roller pressure is not correct.	Replace pinch roller, or pinch roller spring. Clean the pinch roller. Adjust the pinch roller so that it is parallel with the capstan shaft. Replace the pinch roller spring.
Belt	Belt has undue run-out. Belt is dirty or slippery.	Clean the belt. Replace the belt.
Back tension	Back tension is irregular, or back tension is too strong.	Replace back tension spring (under supply disc).
Motor	Motor shaft has undue run-out. Motor pulley is oily and dusty.	Replace the motor. Clean the motor pulley.

[IV] Electrical circuit adjustment location

Main Amp. P.W. Board (Parts Ass'y side view)

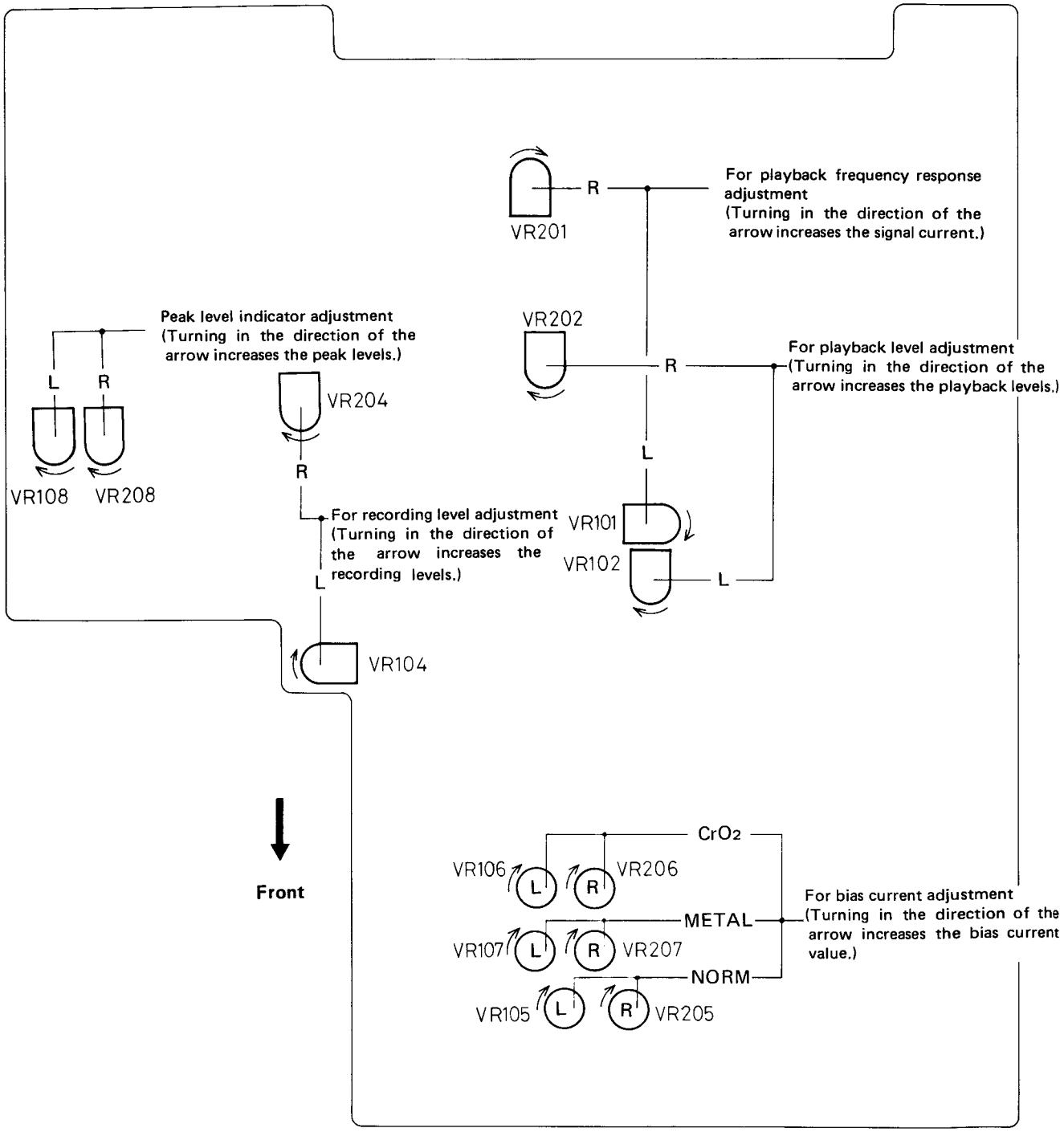


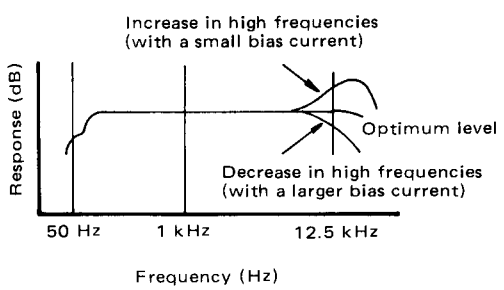
Fig. 14

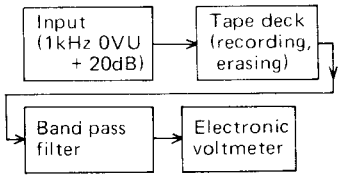
[V] Electrical circuit adjustment procedure

In the steps marked by an asterisk (*), adjustment should be performed, however, only checking is sufficient with steps other than those.

Adjustment should be performed in the order of steps 1, 2, 3, . . . Perform this adjustment with the ANRS switch set to OFF.

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1*	Adjusting playback level	1. Play back the VTT-664 Reference tape (1 kHz) with the tape select switch set to the SF/NORM position. 2. Adjust VR102 and VR202 until the LINE OUT becomes about −8 dBs.	VR102, VR202	−8 dBs	This adjustment becomes necessary when a change in playback level results (for example, due to head replacement).
2*	Playback frequency response	Playback test tape VTT-675N (1 kHz, 10 kHz) for following adjustment. 1) Adjust VR101 and VR201 so that 10 kHz signal and 1 kHz signal gains become flat response.	VR101, VR201		
3*	Adjusting peak level indicator	1. Set the cassette deck to its recording mode. 2. Apply a 1 kHz, approx. −10 dBs signal to the LINE IN terminals. 3. Adjust the recording level controls until the signal is available at −8 dBs at the LINE OUT terminals. 4. Adjust VR108 and VR208 until the indicator becomes to 0 dB.	VR108, VR208	0 dB	Perform the adjustment when the parts are replaced.
4	Adjusting recording level	1. Apply a 1 kHz, approx. −10 dB signal to the LINE IN terminals. Adjust the recording level controls until the signal is available at −8 dBs at the LINE OUT terminals. 2. After checking to see if the peak level indicator becomes to 0 dB, record the signal applied to both left and right channels using normal tape. 3. Play back the recording part. Perform the recording signal adjustment with VR104 and VR204 so that the peak level indicator becomes to 0 dB.	VR104, VR204	0 dB	The level difference between left and right channels for SF/NORM tape, chrome tape and metal tape should be less than 1 dB (1 VU). Perform the adjustment using a normal tape, level difference between recording and playback for SA/CrO_2 and metal tapes, should be less than 1.5 dB, and that between left and right channels should also be less than 1 dB.
5*	Checking record/ playback frequency response	Record 1 kHz, 50 Hz and 12.5 kHz signals at an input level of 0 VU to −20 dB. Play back the tape. Check to see that the 50 Hz and 12.5 kHz signal output deviations fall within the standard range, using the 1 kHz signal output as a reference.	For SF/ NORM tape; VR105, VR205 For SA/ CrO_2 tape; VR106, VR206 For Metal tape; VR107, VR207	Reference frequency; 1 kHz 0 ± 3 dB at 50 Hz 0 ± 3 dB at 12.5 kHz	This checking should be performed for normal, chrome and metal tapes and for both right and left channels. 1. Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. The current measuring method described below is an alternative one. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown left.

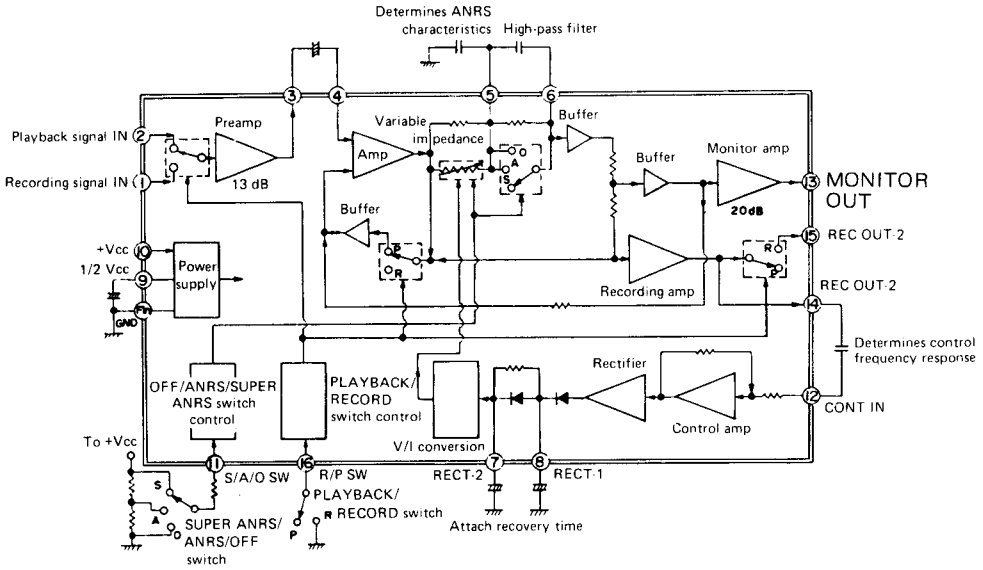


Step	Item	Adjustment	Adjusting point	Standard value	Remarks
6	Checking record/ playback signal distortion	1. Record a 1 kHz, −8 dBs signal to LINE IN terminals and perform recording with the peak level indicator becomes to 0 dB. 2. Play back the record part. Check the output with a distortion meter to see if the value conforms to the standard value.		SF/NORM tape; Less than 1.2% SA/CrO_2 tape; Less than 3% Metal tape; Less than 2%	Be sure to perform this adjustment following bias current and recording level adjustments.
7	Checking signal to noise ratio in recording/playback	1. Record a 1 kHz, the indicator 0 dB signal. Stop the input by disconnecting from the terminal to perform non-signal recording. 2. Play back the recorded part. Measure the 0 dB recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.		SF/NORM, SA/CrO_2 and Metal tapes; More than 42 dB	Apply an output (−72 dBs) to the MIC terminals with the recording level controls set to maximum so that the peak level indicator becomes to 0 dB.
8	Checking erasing coefficient	1. Apply a 1 kHz signal to the LINE IN terminals. Adjust the recording level controls until the peak level indicator becomes to 0 dB. 2. Perform recording with the signal enhanced by 20 dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and non-erased part to compare with an electronic voltmeter.		More than 65 dB	For the measuring, connect a band pass filter between the deck and the electronic voltmeter. 

Integrant Circuit

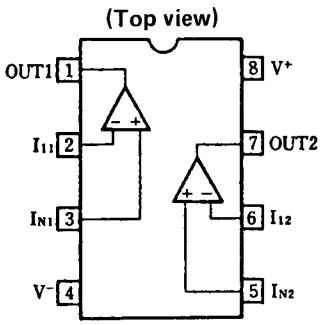
– IC101, 201 –
AN7362N

Block diagram

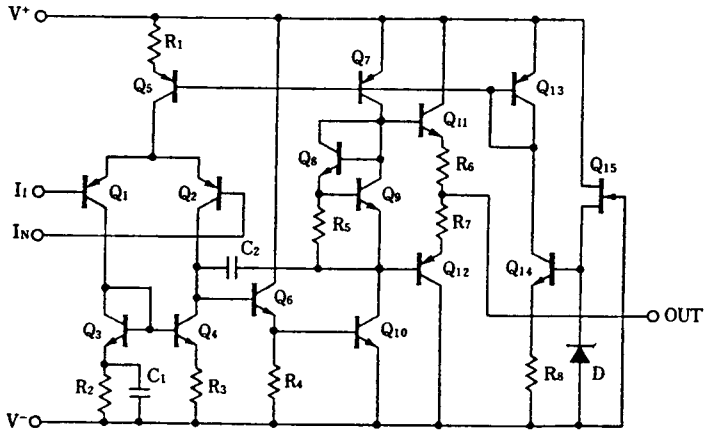


– IC901 –
UPC4557C

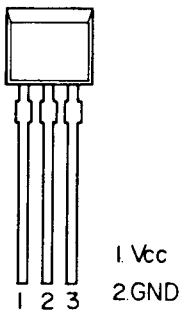
(Top view)



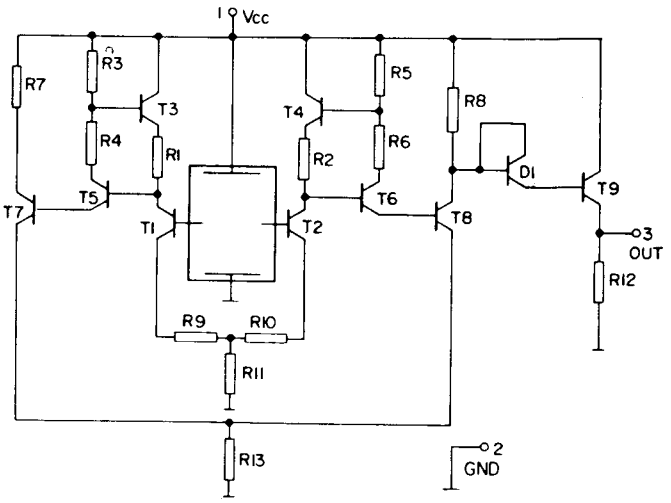
1/2 circuit



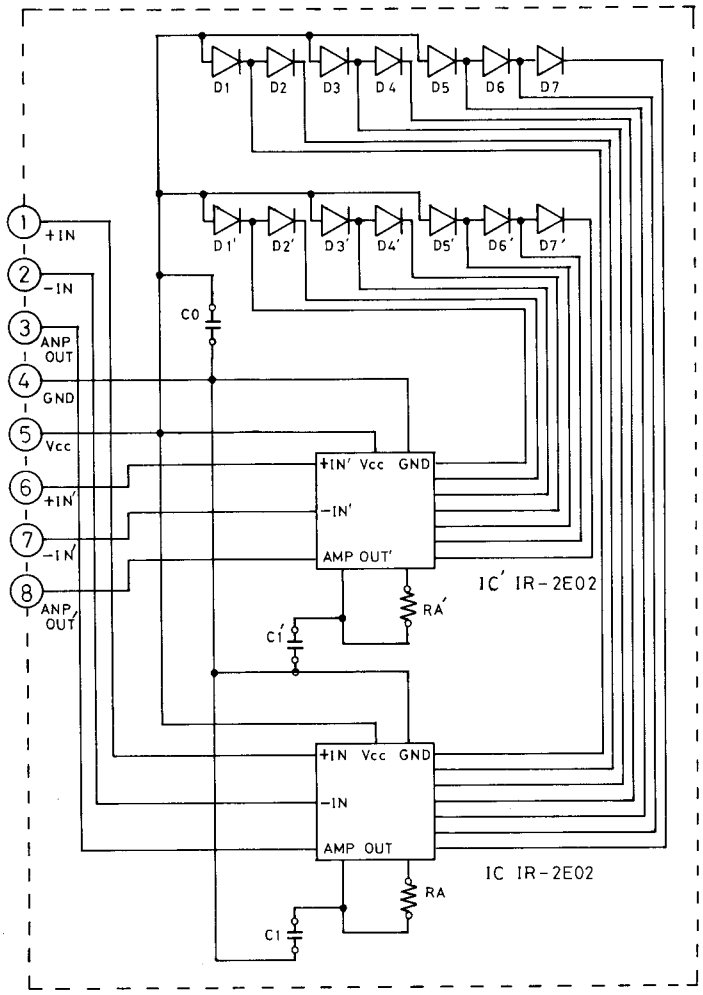
–IC507 –
DN6835



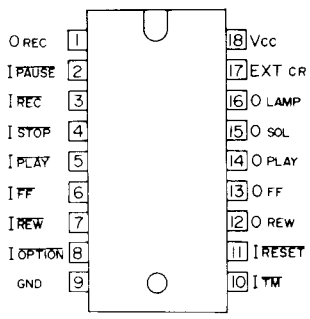
Equivalent circuit



– IC902 –
LT-1011



– IC502 –
VUC0002-001



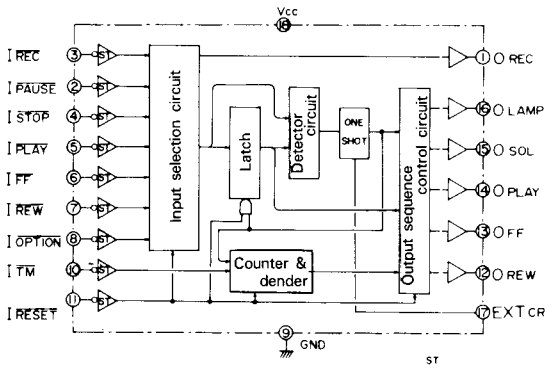
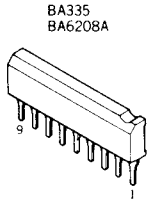
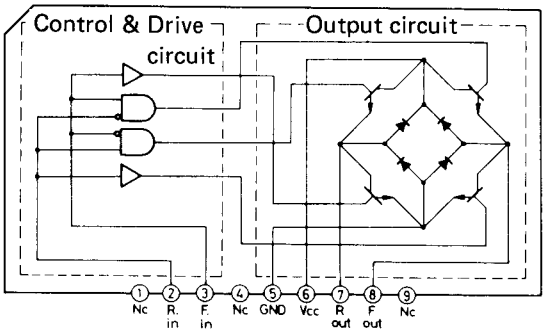


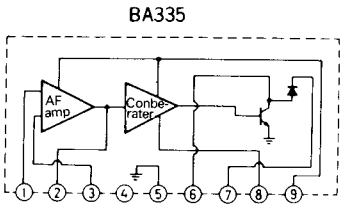
Fig. 16

– IC503 –
BA6208A

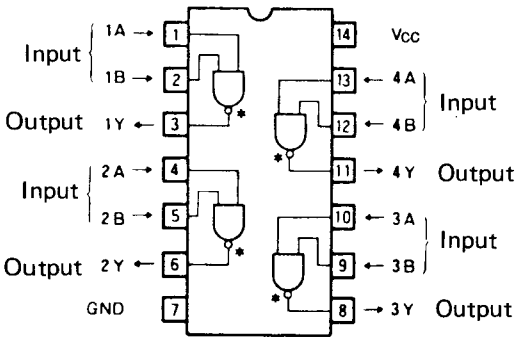




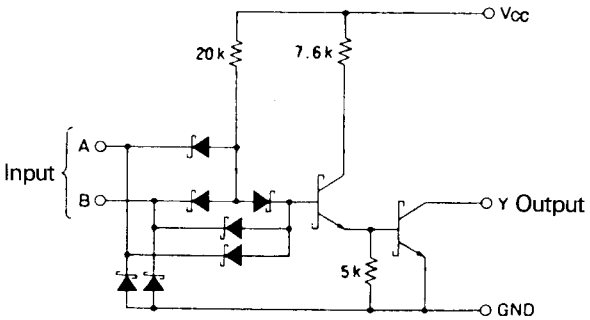
– IC506 –
BA335



– IC504 –
M74LS03P



Circuit (each gate)

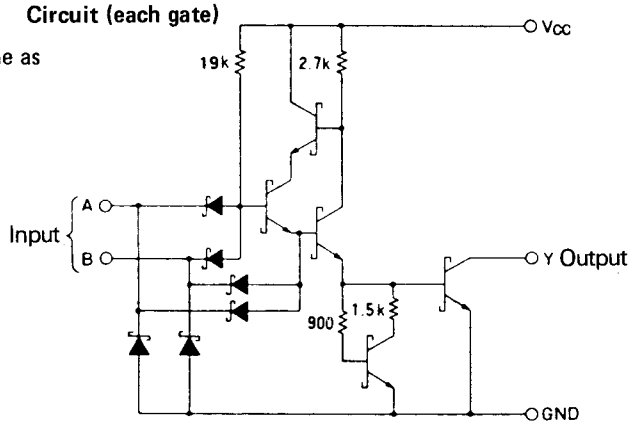


Unit: Ω

– IC505 –
M74LS38P

(Top view is the same as M74LS03P.)

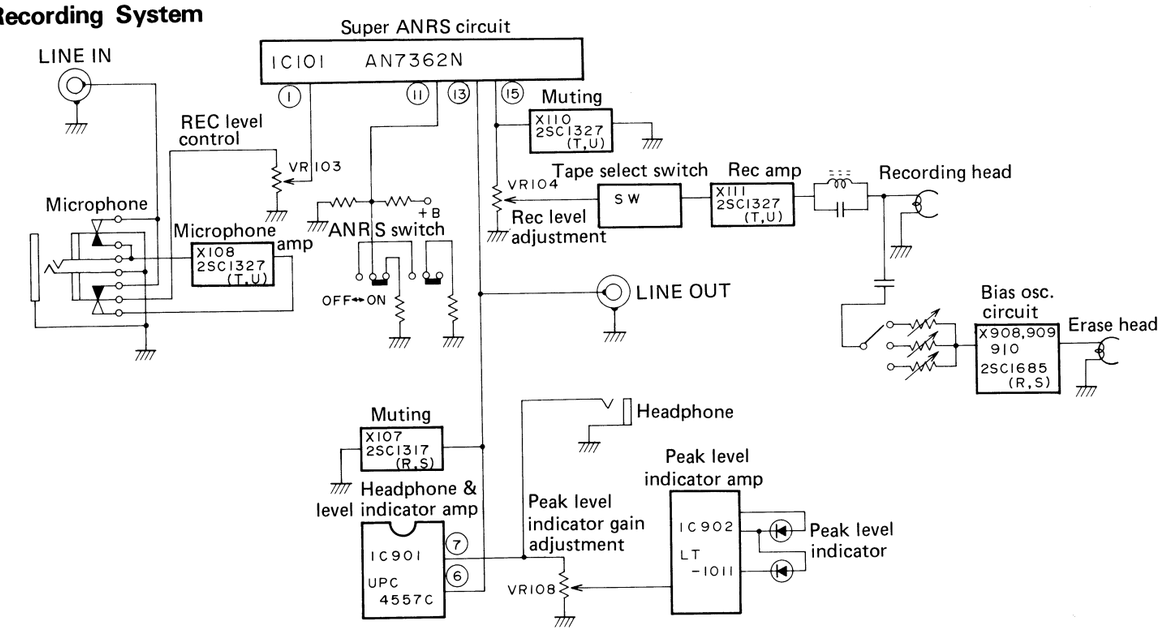
Circuit (each gate)



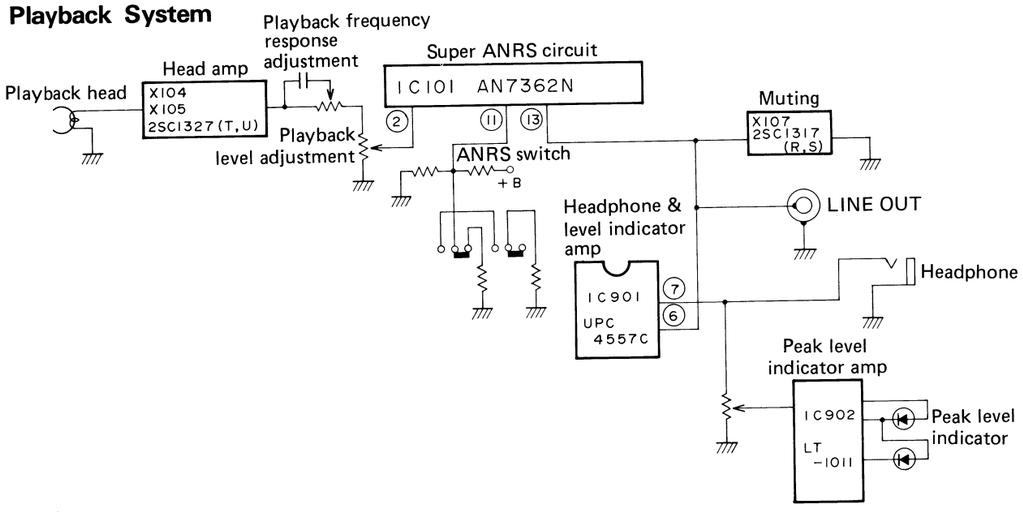
Unit: Ω

Block Diagram

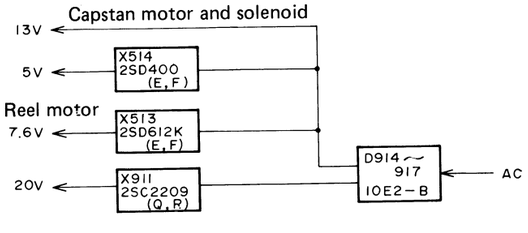
Recording System



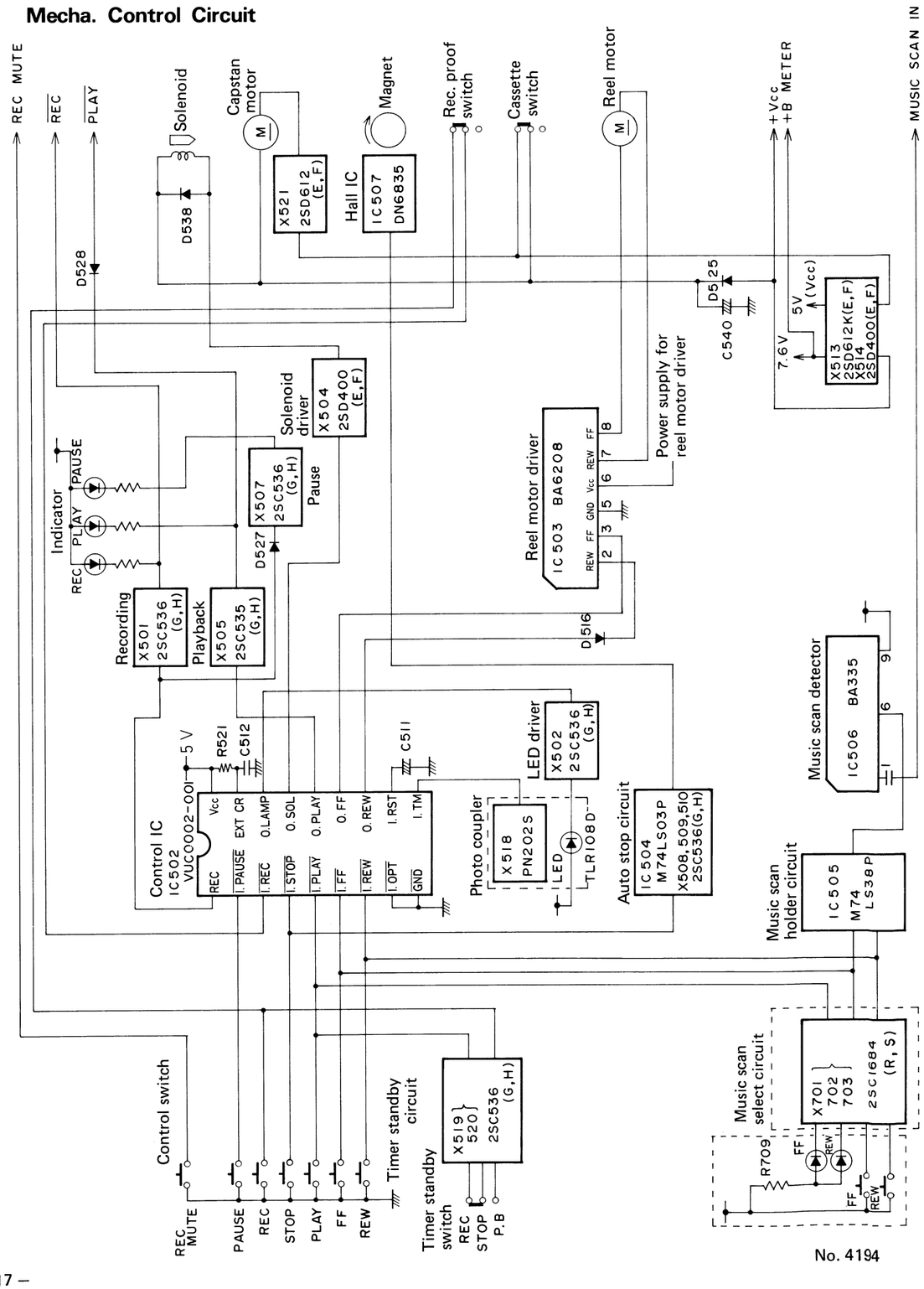
Playback System



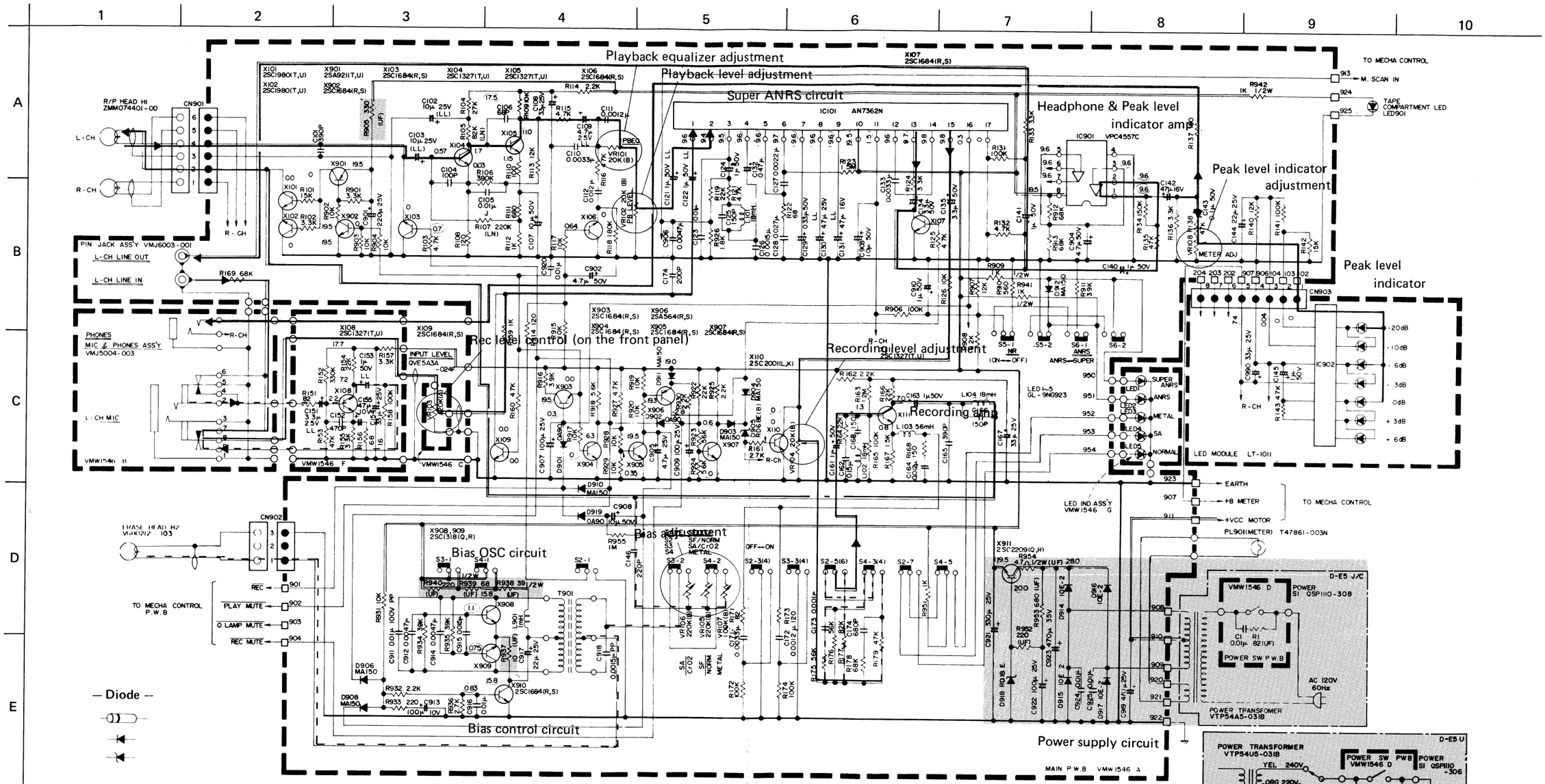
Power Supply Circuit



Mecha. Control Circuit



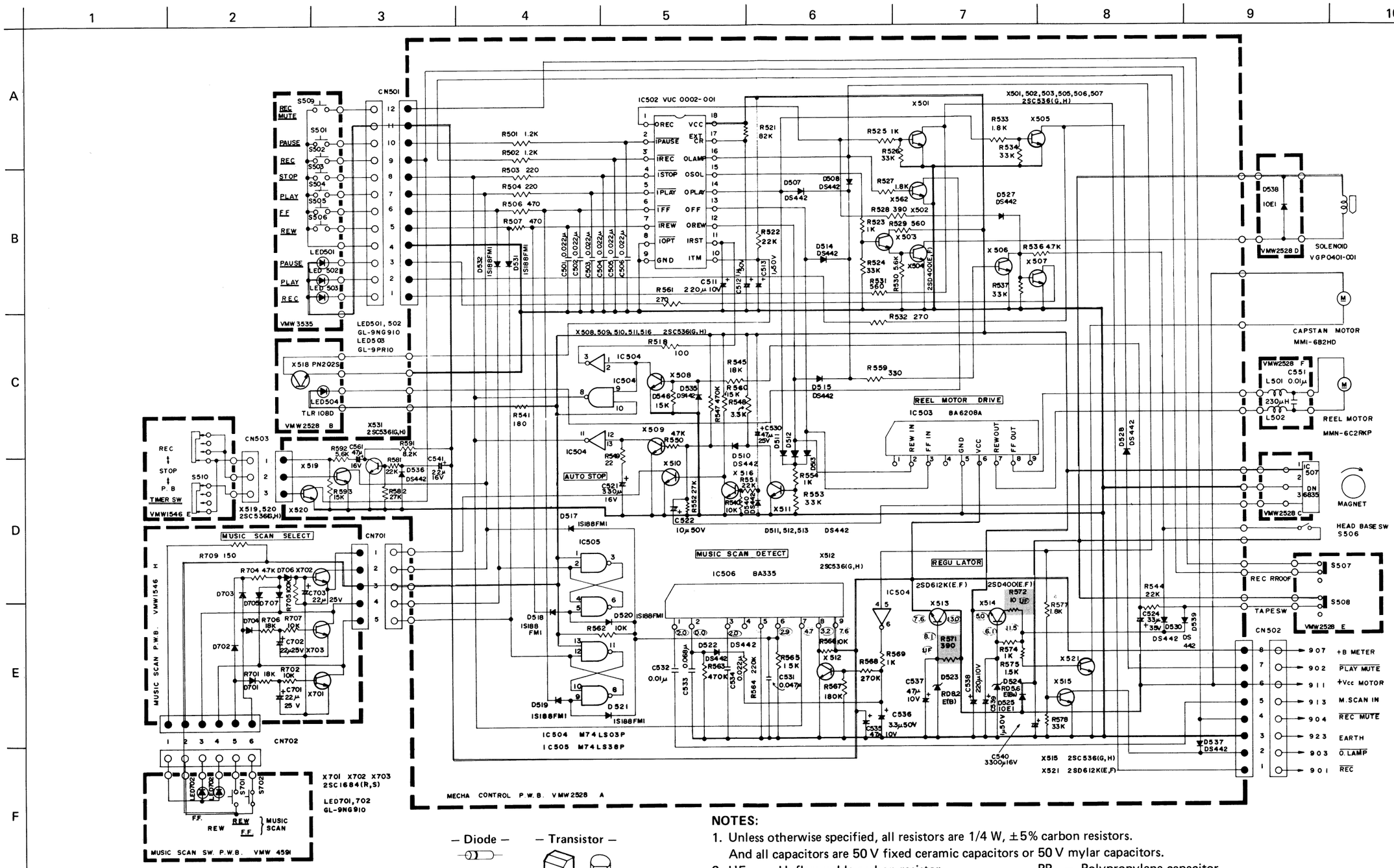
Standard Schematic Diagram of D-E5 (Amprifier Circuit)



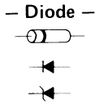
NOTES:

1. Unless otherwise specified, all resistors are 1/4 W, ±5% carbon resistors.
   And all capacitors are 50 V fixed ceramic capacitors or 50 V mylar capacitors.
2. UF — Unflammable carbon resistor
   MF — Metal film resistor
   OMF — Oxided metal film resistor
   Ta — Tantalum solid electrolytic capacitor
   LL — +20% low leak current electrolytic capacitor
   PP — Polypropylene capacitor
   PS — Polystyrene capacitor
   MM — Metallized mylar capacitor
   NP — Non-polarized electrolytic capacitor
3. Blue line shows the signal at playback.
   Red line shows the signal at recording and +B circuits.
4. parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

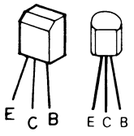
Standard Schematic Diagram of D-E5 (Mecha Control Circuit)



— Diode —



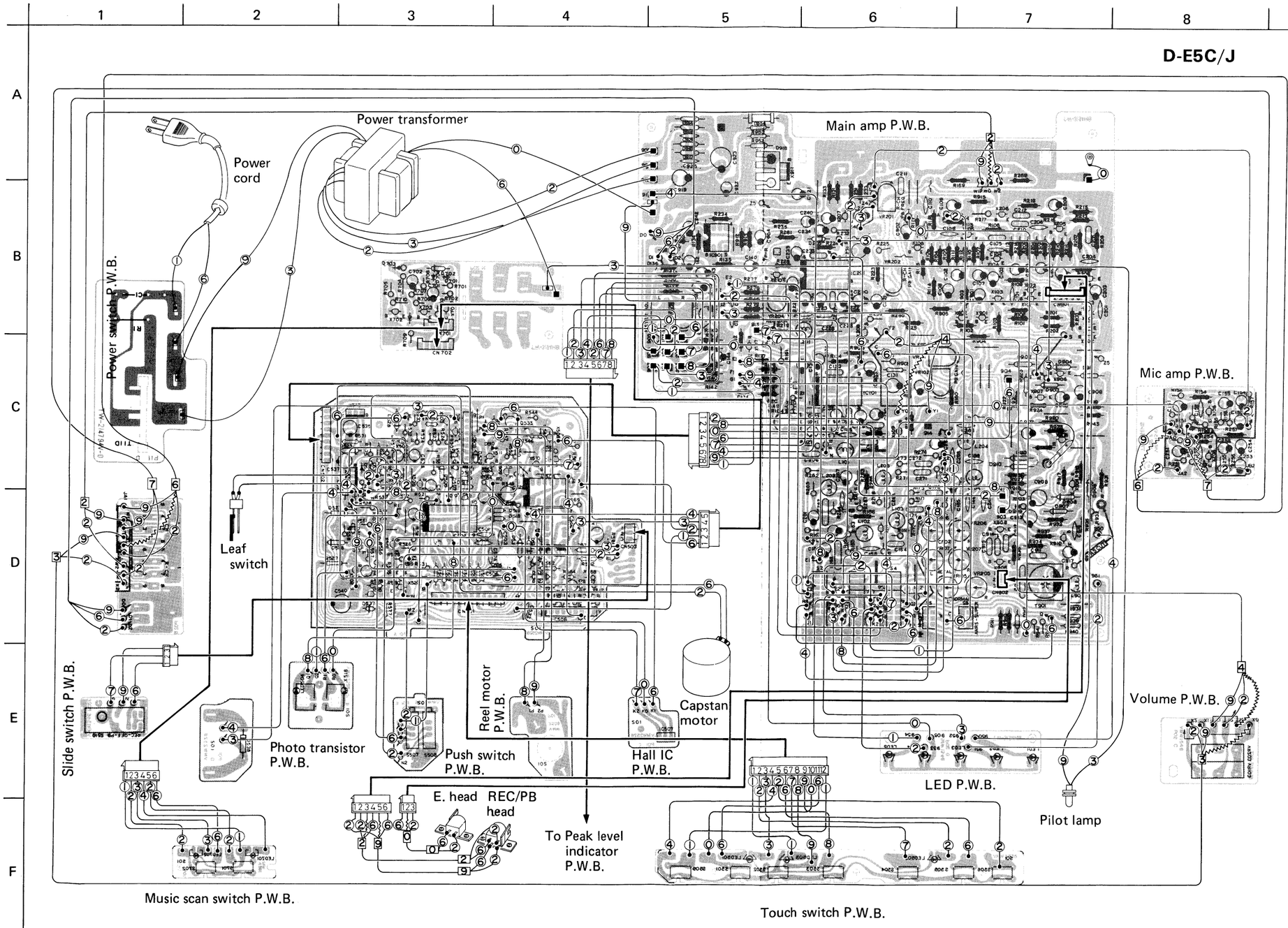
— Transistor —



NOTES:

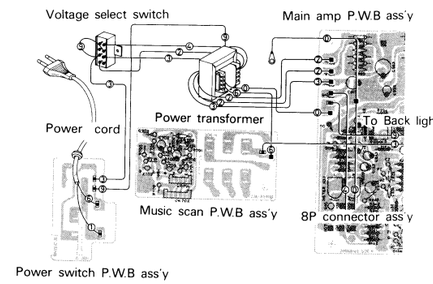
1. Unless otherwise specified, all resistors are 1/4 W, ±5% carbon resistors.
   And all capacitors are 50 V fixed ceramic capacitors or 50 V mylar capacitors.
2. UF — Unflammable carbon resistor
   MF — Metal film resistor
   OMF — Oxided metal film resistor
   Ta — Tantalum solid electrolytic capacitor
   LL — +20% low leak current electrolytic capacitor
   PP — Polypropylene capacitor
   PS — Polystyrene capacitor
   MM — Metallized mylar capacitor
   NP — Non-polarized electrolytic capacitor
3. Red lines show +B circuits.
4. ▨ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

Wiring Connection

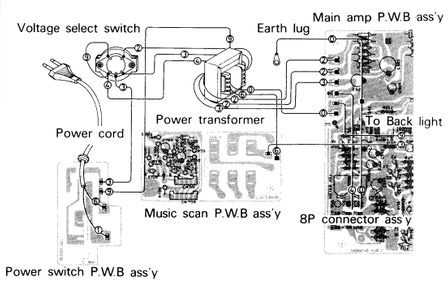


D-E5C/J

D-E5A/B/E



D-E5U

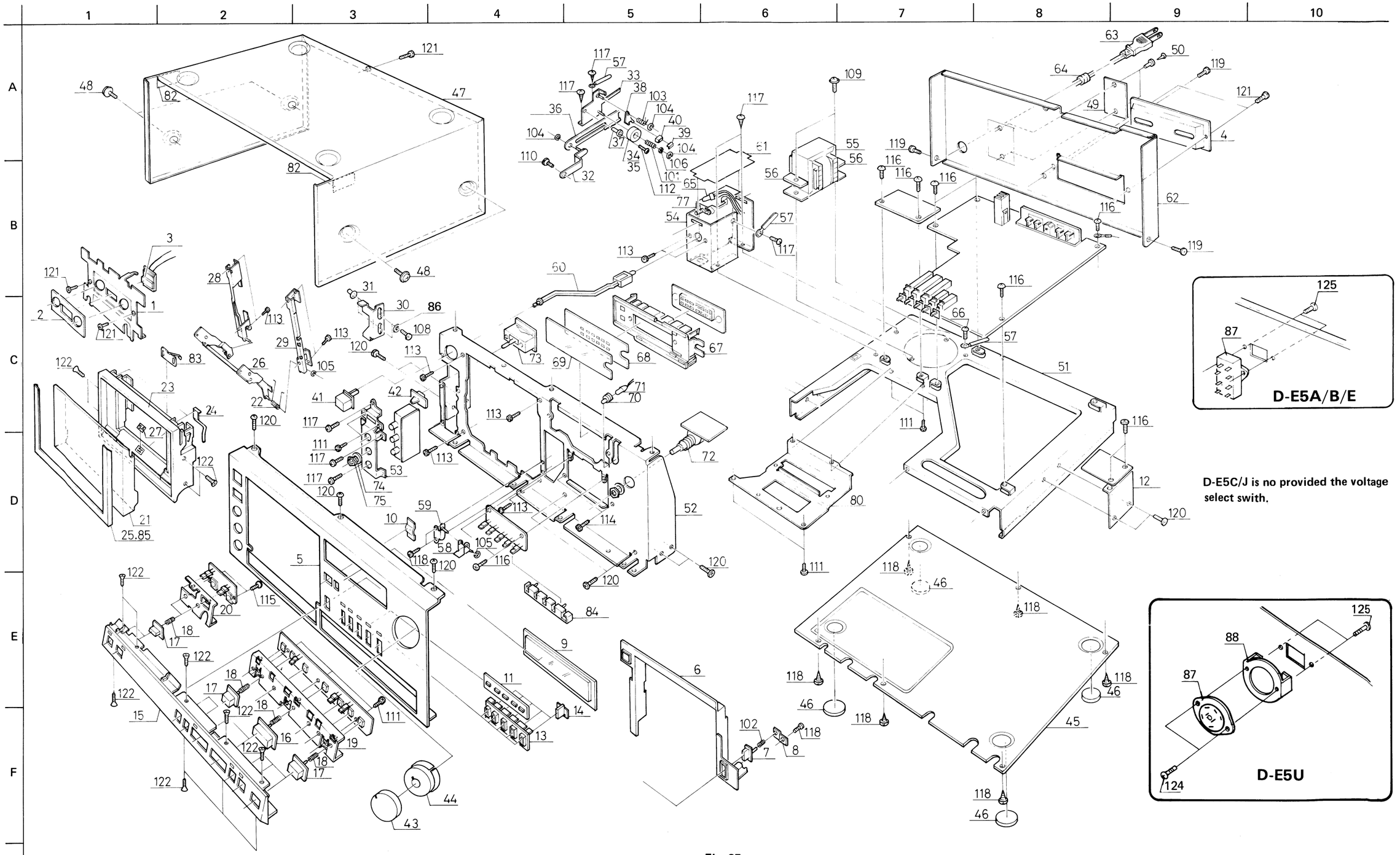


Color code are shown below.

1 ..... Brown
2 ..... Red
3 ..... Orange
4 ..... Yellow
5 ..... Green
6 ..... Blue
7 ..... Violet
8 ..... Grey
9 ..... White
0 ..... Black

Fig. 24

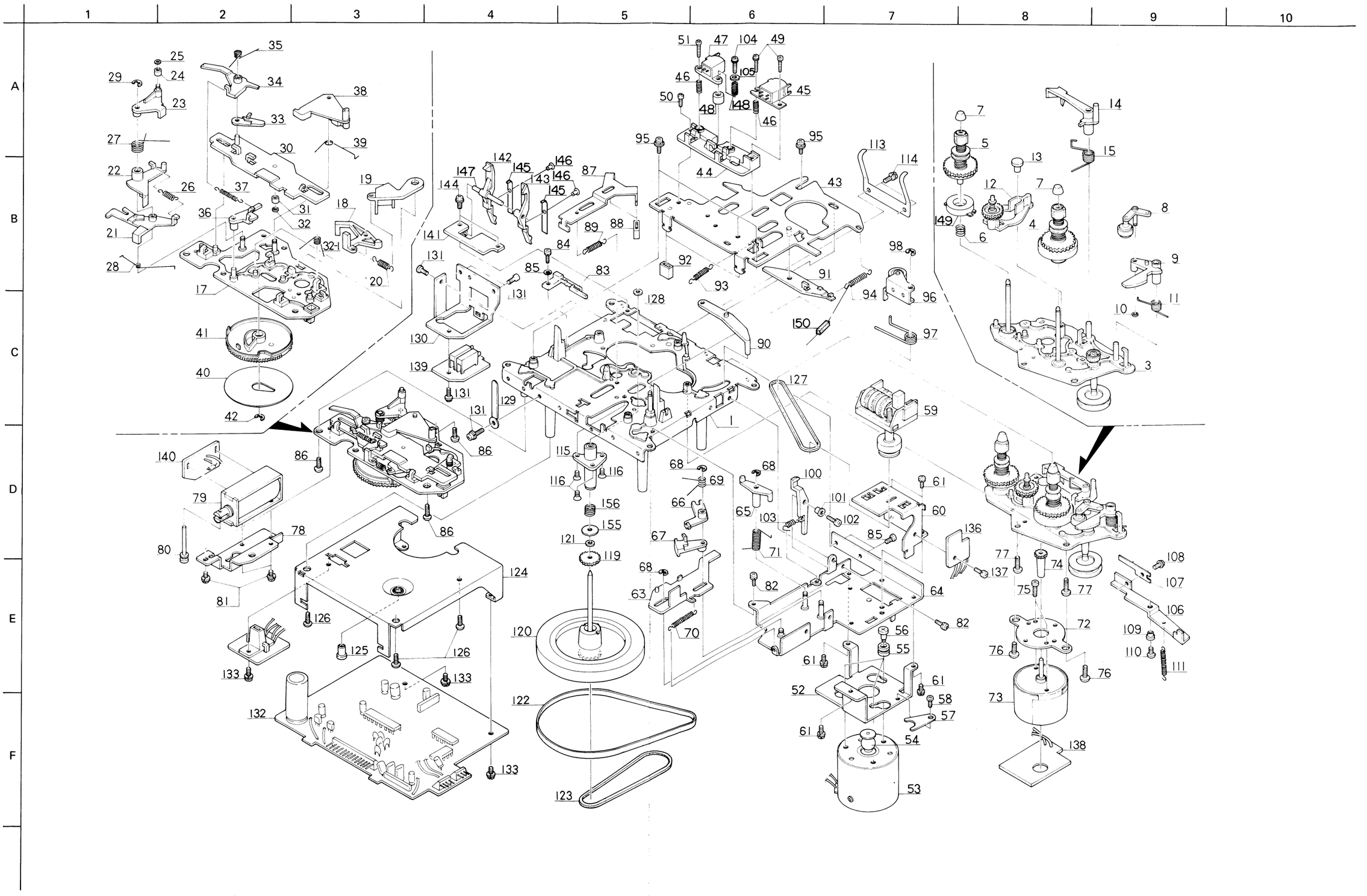
Enclosure Ass'y and Electrical Parts (Except P.W. Board Parts)



D-E5C/J is no provided the voltage select swith.

Fig. 25

Mechanical Component Parts



Enclosure Assembly and Electrical Parts List
(Except P.W. Board Parts)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VJD4444-001	Cassette Plate		1
2	VJD4437-001	Disk Plate		1
3	LD-702	LED		1
4	VJD3213-001	Jack Escutcheon		1
(5, 6, 9, 10, 11, 13)	ZCDE5Y-CBF	Front Plate Ass'y		1 set
5	*VJC1137-002	Front Plate		1
6	VJD3241-001	Escutcheon	Cassette Door – P. Knob	1
7	VXP4091-00A	Push Button Ass'y	for Eject	1
8	VKL4858-001	Bracket		1
9	VJK4128-002	Finder		1
10	VJK4127-001	Counter Lens		1
11	VJK4130-001	Indicator Lens		1
12	VKL4942-001	P.W.B. Bracket	for Mic P.W.B.	1
13	VJD4434-001	Escutcheon	for Operation	1
14	VXP4094-001	Push Button	for Operation	5
15	VJD2164-002	Button Case		1
16	VXP4089-001	Push Button		2
17	VXP4090-001	"		7
18	VKW4246-001	Button Spring		11
19-1	VKL4916-001	Button Supporter		1
19-2	VKL4852-001	"		1
20	VKL4853-001	"		1
(21, 25, 84)	ZCDE5Y-CCA	Cassette Lid Ass'y		1 set
21	VJT3062-002	Cassette Lid		1
22	VKW4266-001	Holder Spring	for Cassette Holder	1
23	VJT2048-001	Cassette Holder		1
24	VKY4180-003	Spring		2
25	VJD4438-001	Lid Plate		1
26	VKL3260-00B	Holder Bracket Ass'y		1
27	VJD4454-001	SA Mark	for Cassette Holder	1
28	VKL4919-001	Bracket (L)	for Mecha.	1
29	VKL4918-001	" (R)	for "	1
30	VKL4857-001	Lock Bracket		1
31	VKH4299-001	Collar		1
32	VKL4859-00A	Arm Bracket Ass'y		1
33	VKL4169-00A	Gear Frame Ass'y		1 set
34	VKS4236-001	Spur Gear		1
35	VKS4109-004	Brake Drum		1
36	VKS3102-001	Rack Plate		1
37	VKH4123-001	Collar		1
38	VKS4110-002	Brake Arm		1
39	VKL4271-001	Rubber Retainer		1
40	VKZ4111-001	Rubber Tire		1
41	E67628-001	Push Knob	for Power	1
42	VXS4031-001	Slide Knob	for Timer	1
43	VXL4129-00A	Knob Ass'y	Input Vol. (L)	1
44	VXL4130-00A	"	" (R)	1
45	VKL1191-001	Bottom Cover		1
46	VJF4003-001	Foot		4
47	*VJC1138-002	Top Cover		1
48	VKZ3001-002	Special Screw		4
49	*VYN2074-003KA	Name Plate	D-E5A	1
	" -002KA	"	D-E5B	1
	" -004KA	"	D-E5C	1
	" -005KA	"	D-E5E	1
	" -006KA	"	D-E5J	1
	" -007KA	"	D-E5U	1
50	E48729-002	Plastic Rivet		2

No. 4194

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
51		VKL1187-001	Amp Chassis		1
52		VKL1189-001	Front Bracket		1
53		VKL4862-001	Bracket	for Headphone Jack	1
54		VKL4849-001	Power Bracket	for Power Switch	1
55	⚠	VTP54T5-021B	Power Transformer	D-E5A	1
	⚠	VTP54C5-041BBS	"	D-E5B	1
	⚠	VTP54A5-031B	"	D-E5C/J	1
	⚠	VTP54C5-041B	"	D-E5E	1
	⚠	VTP54U5-031B	"	D-E5U	1
56		F4932-002	Special Washer	for Power Transformer	2
57		VKZ4001-011	Wire Holder		2
58		VKL4856-001	Kick Lever		1
59		VKL4863-00B	Bracket Ass'y		1
60		VKS4269-001	Remote Bar	for Power	1
61		VKZ4141-001	Insulator		1
62		VKL1190-003	Rear Panel	D-E5C/J	1
		" -002	"	D-E5A/B/E/U	1
63	⚠	QMP2560-200	Power Cord	D-E5A	1
	⚠	QMP9017-008BS	"	D-E5B	1
	⚠	QMP1200-200	"	D-E5C/J	1
	⚠	QMP3900-200	"	D-E5E	1
	⚠	QMP7600-200	"	D-E5U	1
64	⚠	QHS3876-162	Strain Relief	D-E5A/C/E/J/U	1
	⚠	" -162BS	"	D-E5B	1
65		TAW000504-01	Connector	for Power Cord	1
66		VKS4268-001	Wire Clamp	for Amp. Chassis	1
67		VKS3127-001	LED Holder		1
68		VJD4440-001	Indicator Plate		1
69		VJK4129-001	Indicator		1
70		VYH4335-003	Lamp Holder		1
71		T47861-003N	Pilot Lamp		1
72		QVE5A3A-024F	V. Resistor	VR103, 203	1
73		QSS2301-102	Slide Switch	Timer	1
74		VKZ4149-001	Special Washer	for Mic	1
75		VKZ4150-001	Special Nut	for "	1
76		VND4006-002	Caution Label	Timer	1
77		VYSH102-025	Spacer		1
78		VYSA1R8-051	"		1
79		VJZ4018-001	Double Face		1
80		VKL4943-001	Bracket		1
81		Q03091-154	Washer		1
82		VYSH103-018	Spacer	for Top Cover	2
83		VKY4211-001	Cassette Spring		1
84		VKS4005-001	LED Holder		1
85		VJZ4018-001	Double Face		1
86		Q03091-154	Washer		2
87	⚠	QSS2325-011	Voltage Select Switch	D-E5A/E	1
	⚠	" -011BS	"	D-E5B	1
	⚠	QSR0084-001	"	D-E5U	1
88		VKL4275-001	Bracket	D-E5U	1
101		VKW3001-006	Spring		1
102		" -028	"		1
103		VKW4106-001	Torsion Spring		1
104		REE2000	E-Ring		2
105		REE2500	"		2

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
106	Q03093-524	Washer		1
107	WNS2600Z	"		1
108	DPSP2610Z	Screw		2
109	DPSP4010ZS	"	Power Transformer	2
110	LPSP2604R	"	Arm Bracket	1
111	LPSP2605Z	"	Pitch Control P.W.B. x 3, Bracket x 4	7
112	LPSP2608Z	"	Slide Switch x 2, Button Case x 4	6
113	LPSP3006MS	"	Mecha. x 4, Mecha.—Front Bracket x 4	8
114	LPSP3006VS	"	Push Switch	2
115	SBSB2608Z	"	Button Supporter x 2, LED Indicator Ass'y (2) x 2, Touch Switch x 4	8
116	SBSB3006V	Tapping Screw	Push Switch x 2, LED Indicator Ass'y (1) x 2, Music Scan Ass'y x 2	6
117	SBSB3006Z	"	Switch Bracket x 3, Wire Holder x 6, Damper x 1, Headphone Bracket x 3	13
118	SBSB3008Z	"	Push Button Ass'y x 1, Bottom Cover x 7, Bracket Ass'y x 2	10
119	SDSB3006R	Screw	Rear Panel x 5, Top Cover x 1	6
120	SDSB3006Z	"	Front Plate — Front Bracket x 3, Front Bracket x 6	9
121	SDSB3008R	"	Jack Escutcheon x 2, Cassette Plate x 2, Top Cover x 1	5
122	SSSP2604R	"	Button Supporter	9
123	SSSP2604R	"	Cassette Holder	4
124	LPSP2606Z	"	for Voltage Select Switch (D-E5U)	2
125	SDSP3006RS	"	for Voltage Select Switch (D-E5A/B/E) for Voltage Select Switch Bracket (D-E5U)	2

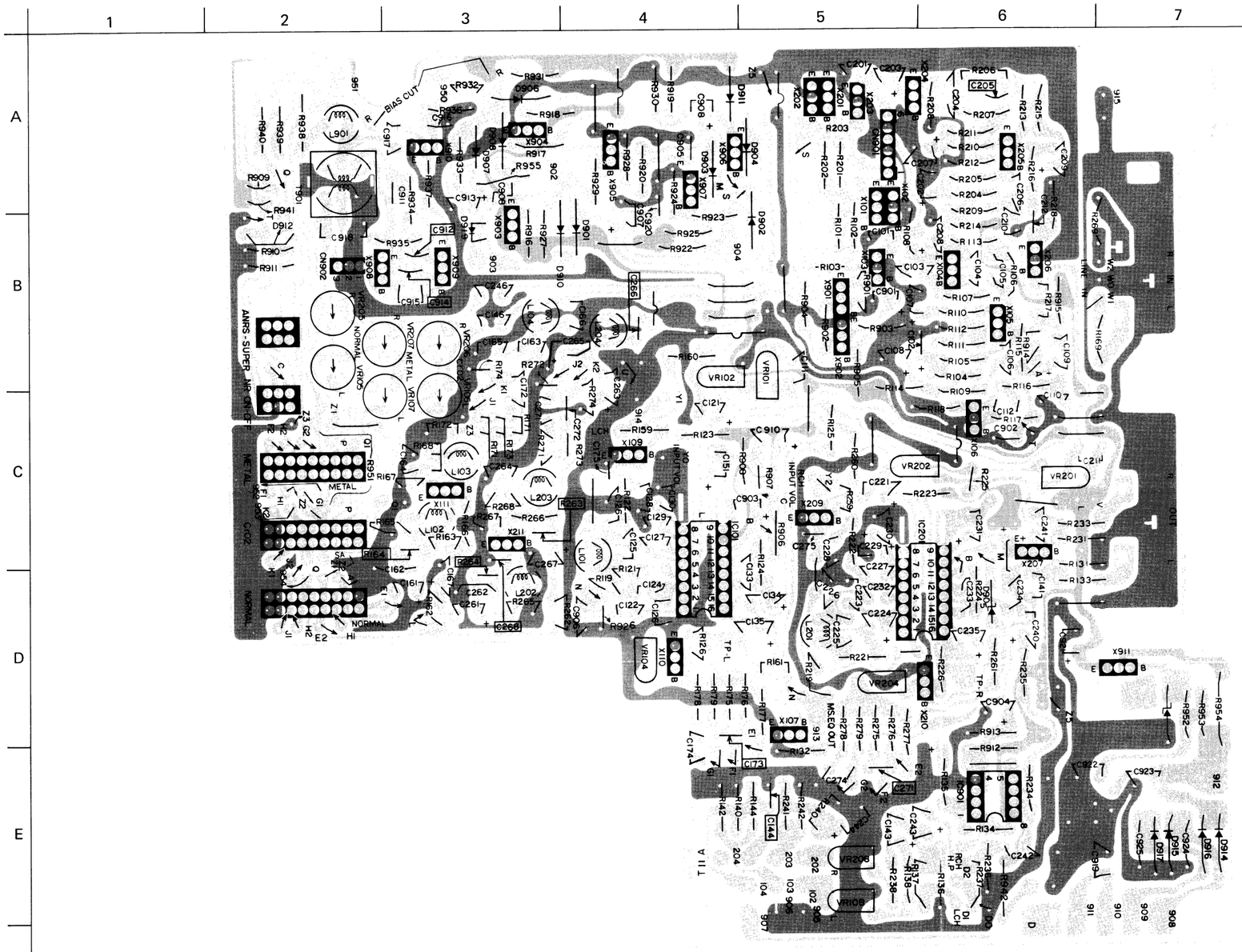
Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL1162-00E	Chassis Base Ass'y		1
2	—	—		—
3	VKL3215-00B	Reel Disk Bracket Ass'y		1
4	VKR4150-00C	Reel Disk Ass'y	(Take-up)	1
5	VKR4158-00B	"	(Supply)	1
6	This Drwg.	Comp. Spring	Back Tension	1
7	VKR4160-001	Reel Stopper		2
8	VKS4240-00A	Idler Arm Ass'y		1
9	VKS4170-001	Take-up Lever		1
10	TEP357421-05	Special Washer	Take-up Arm	1
11	VKW4181-001	Take-up Lever Spring		1
12	VKS4203-00B	FF. REW. Gear Ass'y		1
13	VKS4174-001	Lock Bush		1
14	VKS4175-001	Neutral Arm		1
15	VKW4182-001	Neutral Arm Spring		1
16	VKL3217-00C	Drive Gear Ass'y Unit		1
17	VKL3218-00B	Gear Holder Ass'y		1
18	VKS4176-001	Stop Arm		1
19	VKS4177-001	Kick Arm		1
20	VKW3002-046	Tension Spring		1
21	VKS4178-001	Pause Arm (3)		1
22	VKS4179-001	" (2)		1
23	VKS4180-00A	Pause Arm (1) Ass'y		1
24	VKH3000-031	Collar		1
25	VKZ4004-001	Special Washer	(Collar)	1
26	VKW3000-014	Tension Spring	Pause Arm (2), (3)	1
27	VKW4183-001	Pause Arm Spring	" (1), (2)	1
28	VKW4184-001	"	" (3)	1
29	REE2500	E-Ring		1
30	VKS4182-00B	Slide Bar Ass'y		1
31	VKH3000-031	Collar		1
32	VKZ4004-001	Special Washer	Collar	1
32-1	VKW4185-001	Slide Bar Spring		1
33	VKS4184-001	Play Arm (2)		1
34	VKS4185-001	" (3)		1
35	VKW4186-001	Play Arm Spring		1
36	VKS4186-001	Brake Arm		1
37	VKW3002-022	Tension Spring	Play Arm (3) — Brake Arm	1
38	VKS4187-001	Play Arm (1)		1
39	VKW4187-001	Play Arm (1) Spring		1
40	VKZ4134-001	Control Plate		1
41	VKS3114-001	Control Plate		1
42	REE2500	E-Ring		1
43	VKL3220-00B	Slide Base Ass'y		1
44	VKS2102-001	Head Mount Base		1
45	ZMM074401-0D	Rec/PB Head Ass'y		1
46	VKW3001-020	Comp. Spring		2
47	VGH0212-103	Erase Head Ass'y		1
48	VKH4215-001	Head Collar		1
49	SPSX2010N	Screw	(R/P Head)	2
50	SPSP2004N	"	Head Mount Base	1
51	SPSX2010N	"	Erase Head	1
52	VKL4879-001	Motor Bracket		1
53	MMI-6B2HD	D.C. Motor		1
54	VKS4188-003	Motor Pulley		1
55	VKZ4130-001	Cushion Rubber		3

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
56	VKZ4109-001	Motor Screw		3
57	TFB345469-01	Rubber Stopper		1
58	SPSP2603Z	Screw	Rubber Stopper	1
59	VKC5140-001S	Tape Counter	Frame Drum Knob	1
60	VKL4880-001	Counter Bracket		1
61	LPSP2604Z	Screw	Motor Bracket – Counter Bracket, Side Bracket	7
62	SPSP2603Z	"	Side Bracket	2
63	VKS4274-001	Eject Slide Bar		1
64	VKL3264-00A	Side Bracket Ass'y		1
65	VKS4191-001	Safety Arm (1)		1
66	VKS4234-001	" (2)		1
67	VKS4275-001	" (3)		1
68	REE2500	E-Ring		3
69	VKW4220-001	Safety Arm Spring		1
70	VKW3002-038	Tension Spring	Eject Slide Bar	1
71	VKW4188-001	Safety Arm Spring		1
72	VKL4657-001	Reel Motor Bracket		1
73	MMN-6C2RKP	Reel Motor		1
74	VKS4193-002	Motor Gear		1
75	SPSP2603Z	Screw	Reel Motor	2
76	SBSB2608Z	"	Motor Bracket	2
77	SBSB2608Z	"	Reel Unit	3
78	VKL4658-002	Solenoid Bracket		1
79	VGP0401-001	D.C. Solenoid		1
80	VKH4251-001	Solenoid Pin		1
81	LPSP2604Z	Screw	Solenoid, Solenoid Bracket	4
82	–	–		–
83	VSH1108-001	Reef Switch	Pause Switch	1
84	LPSP2004Z	Screw	"	1
85	–	–		–
86	SBSB2608Z	Screw	Gear Ass'y Unit	3
87	VKL4659-001	Brake Bar		1
88	VKZ4129-001	Brake Rubber		2
89	VKW3002-054	Tension Spring		1
90	VKS4194-00B	Take-off Lever Ass'y		1
91	VKS4277-001	Slide Bar Arm		1
92	T44341-001	Rubber Tire		2
93	VKW3002-042	Tension Spring	Slide Base	1
94	VKW3002-060	"	Slide Base Arm	1
95	DPSP2605Z	Screw	Slide Base	3
96	VKP4106-00B	Pinch Roller Arm Ass'y		1
97	VKW4189-001	Pinch Roller Spring		1
98	REE2500	E-Ring		1
99	–	–		–
100	VKS4276-001	Lock Arm		1
101	VKH3001-039	Flange Collar		1
102	LPSP2606Z	Screw	Lock Arm	1
103	VKW3002-066	Spring	for Lock Arm	1
104	SPSX2014N	Screw	E. Head	1
105	WSS2000N	Washer		1
106	VKL4925-001	Kick Lever		1
107	VKY4204-001	Spring Plate		1
108	SPSP2003Z	Screw		1
109	VKH3001-024	Flange Collar		1
110	LPSP2604Z	Screw		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
111	VKW3002-011	Tension Spring		1
112	–	–		–
113	VKY4171-001	Pack Spring		1
114	SPSP2603Z	Screw	Pack Spring	2
115	VKF4108-00A	Capstan Metal Ass'y		1
116	SSSP2605Z	Screw	Capstan Metal	3
117	–	–		–
118	–	–		–
119	VKS4199-001	Flywheel Gear		1
120	VKF3114-00A	Flywheel Ass'y		1
121	Q03093-827	Washer	Thrust	1
122	VKB3001-010H	Belt	Capstan	1
123	VKB3000-017H	"	Take-up	1
124	VKL3291-001	Flywheel Holder		1
125	TEP357456-01	Thrust Bearing		1
126	SBSB2608Z	Screw	Flywheel Holder	3
127	VKB3000-028H	Belt	Counter	1
128	Q03093-522	Washer	Oil Cut	1
129	VKZ4001-010	Wire Holder		2
130	VKL4881-002	Switch Bracket		1
131	SPSP2604Z	Screw	Switch Bracket	3
132	–	Mecha. Control P.W.B. Ass'y		1
133	LPSP2606Z	Screw	Mecha. Con. – Photo Con.	3
134	–	–		–
135	–	–		–
136	–	Hall Element P.W.B.		1
137	LPSP2604Z	Screw	Hall Element P.W.B.	1
138	–	Reel Motor P.W.B.		1
139	–	Push Switch P.W.B.		1
140	–	Solenoid P.W.B.		1
141	VKS4271-001	Arm Holder		1
142	VKS4322-001	Rec. Safety Arm		1
143	VKS4323-001	Cassette Switch Arm		1
144	LPSP2604Z	Screw		2
145	VKY4210-001	Safety Plate		2
146	VKS4324-001	Pin		2
147	VKH4291-001	Shaft		1
148	VKW3001-036	Comp. Spring		1
149	VKS4247-001	Back Tension Base		1
150	TJN265559-01	Silencer		1
151	–	–		–
152	–	–		–
153	–	–		–
154	–	–		–
155	Q03093-628	Washer	Thrust	1
156	VKW3001-044	Comp. Spring	"	1

Main Amp. P.W. Board Parts



	C. Tester			E. Voltmeter		
	E	C	B	E	C	B
X101,102	0	0	0	0	0	0
X103	0	0	0.7	0	0	0.7
X104	0.02	1.72	0.3	0.03	1.7	0.57
X105	1.15	11.0	1.7	1.15	11.0	1.7
X106	0	0	0.64	0	0	0.64
X107	0	0	0	0	0	0
X108	1.6	6.6	2.0	1.6	7.2	2.2
X109	0	0	0	0	0	0
X901	20.0	0	20.0	19.5	0	20.0
X902	19.5	20.0	0	19.5	20.0	0
X903	0	19.5	0.3	0	19.5	0.3
X904	0	6.3	0	0	6.3	0
X905	0	19.5	0.35	0	19.5	0.35
X906	19.0	−2.8	19.3	19.0	−2.8	19.3
X907	0	0.6	0.73	0	0.6	0.73
X908	0.5	16.5	1.1	0.5	15.8	1.1
X909	0.5	18.4	0.8	0.5	18.4	0.75
X910	0	0	0.85	0	0	0.83
X911	19.5	26.0	20.0	19.5	26.0	20.0

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101	C. Tester	6.3	6.3	9.6	66.2	9.8	9.7	9.2	9.7	9.4	20.0	1.5	9.7	10.0	10.0	10.0	0.3
	E. Voltmeter	9.6	9.4	9.5	9.6	9.6	9.7	9.6	9.6	9.6	19.5	1.5	9.6	9.7	9.8	9.8	0.3
IC901	C. Tester	9.7	9.7	8.3	0	8.3	9.7	9.7	20.0								
	E. Voltmeter	9.6	9.6	9.6	0	9.6	9.6	9.6	19.5								

Voltage values are measured by the following meter without input signal at playback mode.

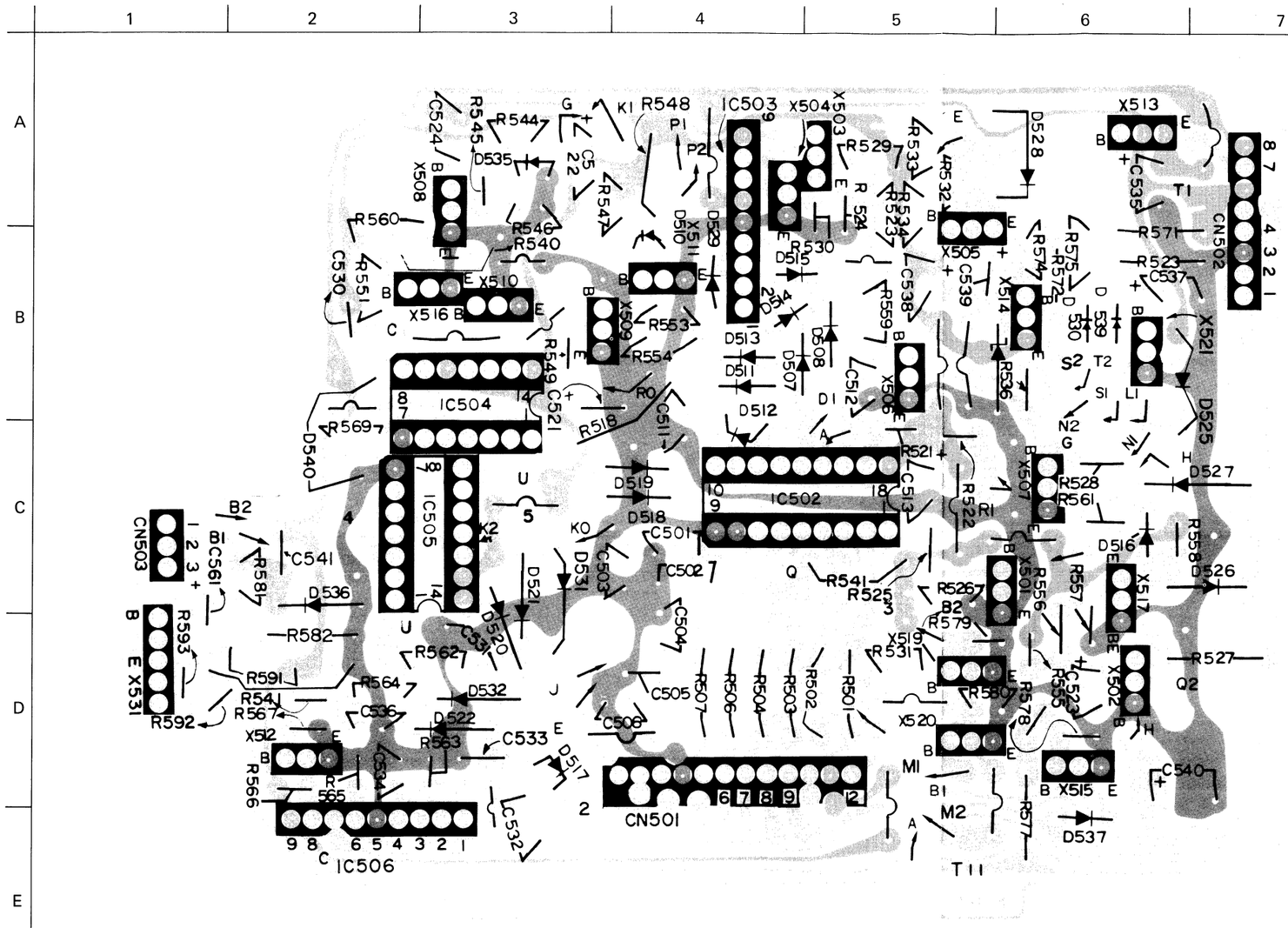
C. Tester = Circuit Tester (20 kΩ impedance)

E. Voltmeter = Electronic Voltmeter

+B

Earth

Mecha. Control P.W. Board Parts



	Electronic Voltmeter		
	E	C	B
X513	7.4	13.0	8.1
514	5.5	11.5	6.1

+B

Earth

		1	2	3	4	5	6	7	8	9
IC506	Electronic Voltmeter	2.0	0	2.0	—	0	2.9	4.7	3.2	7.4

Note: Voltage values are measured without input signal at playback mode.

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Main Amp P.W. Board Parts List

Ref. No.		Parts No.	Parts Name	Remarks	Q'ty
		VMW1546-101	P.W. Board	No supply as parts ass'y	1
R101, 201, 142, 242		QRD141J-153S	C. Resistor	15 kΩ ¼ W	4
R102, 202, 124, 224, 133, 233, 136, 236, 901		" -332S	"	3.3 kΩ "	9
R103, 203, 115, 215, 116, 216, 121, 221, 123, 223, 125, 225, 160, 260, 927		" -472S	"	4.7 kΩ "	15
R104, 204		" -273S	"	27 kΩ "	2
R105, 205, 177, 277		" -823SL	C. Resistor (Low Noise)	82 kΩ "	4
R106, 206		" -394S	C. Resistor	390 kΩ "	2
R107, 207		" -224SL	C. Resistor (Low Noise)	220 kΩ "	2
R108, 208, 173, 273, 914		" -121S	C. Resistor	120 Ω "	5
R109, 209, 117, 217, 126, 226, 902–904, 915, 917, 919, 920, 931, 928, 929		" -103S	"	10 kΩ "	16
R110, 210		" -101S	"	100 Ω "	2
R111, 211		" -681S	"	680 Ω "	2
R112, 212, 159, 259		" -102S	"	1 kΩ "	4
R113, 213, 140, 240, 907		" -123S	"	12 kΩ "	5
R114, 214, 162, 262, 925, 930, 932		" -222S	"	2.2 kΩ "	7
R118, 218		" -184S	"	180 kΩ "	2
R119, 219, 164, 264, 166, 266, 922		QRD143J-223S	"	22 kΩ "	7
R122, 222		QRD141J-680S	"	68 Ω "	2
R123, 223		" -155S	"	1.5 MΩ "	2
R131, 231, 141, 241, 165, 265, 172, 272, 174, 274, 906		" -104S	"	100 kΩ "	11
R134, 234		" -154S	"	150 kΩ "	2
R135, 235, 138, 238, 179, 279		" -473S	"	47 kΩ "	6
R137, 237, 168, 268		" -151S	"	150 Ω "	4
R161, 261, 936		QRD143J-272S	"	2.7 kΩ "	3
R163, 263		" -125S	"	1.2 MΩ "	2
R167, 267		" -152S	"	1.5 kΩ "	2
R169, 269, 912, 913		QRD147J-683S	"	68 kΩ "	4
R171, 271		QRD143J-820S	"	82 Ω "	2
R175, 275, 176, 276		QRD141J-563S	"	56 kΩ "	4
R178, 278		" -683S	"	68 kΩ "	2
R905	⚠	QRD149J-331S	Fail-safe C. Resistor	330 Ω "	1
R908		QRD141J-822S	C. Resistor	8.2 kΩ "	1
R909		QRD123K-102	"	1 kΩ ½ W	1
R910		QRD141J-561S	"	560 Ω ¼ W	1
R911, 916		" -392S	"	3.9 kΩ "	2
R918, 923, 924		" -562S	"	5.6 kΩ "	3
R926		QRD143J-182S	"	1.8 kΩ "	1
R933		QRD147J-221S	"	220 Ω "	1
R934, 935		QRD141J-393S	"	39 kΩ "	2
R937		QRD149J-100S	"	10 Ω "	1
R939	⚠	QRD126K-680	Fail-safe C. Resistor	68 Ω ½ W	1
R940, 952	⚠	QRD149J-221S	"	220 Ω ¼ W	2
R951, 942		QRD121K-102	C.Resistor	1 kΩ ½ W	2
R953	⚠	QRD149J-681S	Fail-safe C. Resistor	680 Ω ¼ W	1
R954	⚠	QRD126K-4R7	"	4.7 Ω ½ W	1
R955		QRD141J-394S	C. Resistor	390 kΩ ¼ W	1
R941		QRD123K-102	"	1 kΩ ½ W	1
		V44611-007	Formed Bus Wire	5 mm	2
		V44611-006	"	7.5 mm	2

Ref. No.		Parts No.	Parts Name	Remarks	Q'ty
		V44611-005	Formed Bus Wire	12.5 mm	1
		QWY123-019	Bus Wire		19
VR101, 201		QVP8A0B-024	V. Resistor	Playback EQ.	2
VR102, 202		" -024	"	Playback Level	2
VR108, 208		" -014	"	Meter Adj.	2
VR104, 204		" -024	"	Rec. Level	2
VR105, 205		QVP4A0B-224	"	Bias SF	2
VR106, 206		" -224	"	Bias SA	2
VR107, 207		" -104	"	Bias Metal	2
C101, 201, 165, 265		QCS11HJ-391	C. Capacitor	390 pF 50 V	4
C102, 202, 103, 203		QEB41EM-106M	E. Capacitor (Low Leak)	10 μF 25 V	4
C104, 204		QCS11HJ-101	C. Capacitor	100 pF 50 V	2
C105, 205, 123, 223		QFM41HJ-103	M. Capacitor	0.01 μF "	4
C106, 206		QCS11HJ-680	C. Capacitor	68 pF "	2
C107, 207, 908		QET41HR-106N	E. Capacitor	10 μF "	3
C108, 208, 167, 267		QET41ER-336N	"	33 μF 25 V	4
C109, 209, 130, 230		QEB41EM-475M	E. Capacitor (Low Leak)	4.7 μF "	4
C110, 210, 133, 233, 171, 271		QFM41HJ-332	M. Capacitor	0.0033 μF 50 V	6
C111, 211, 172, 272		" -122	"	0.0012 μF "	4
C112, 212, 164, 264		" -123	"	0.012 μF "	4
C121, 221, 122, 222		QEB41HM-105M	E. Capacitor (Low Leak)	1 μF "	4
C124, 224, 140, 240, 141, 241, 161, 261, 163, 263, 910		QET41HR-105N	E. Capacitor	1 μF "	11
C125, 225, 168, 268		QCS11HJ-151	C. Capacitor	150 pF "	4
C126, 226		QFM41HJ-152	M. Capacitor	0.0015 μF "	2
C127, 227		" -222	"	0.0022 μF "	2
C128, 228		" -273	"	0.0027 μF "	2
C129, 229		QEB41HM-334M	E. Capacitor (Low Leak)	0.33 μF "	2
C131, 231, 142, 242		QET41CR-476N	E. Capacitor	47 μF 16 V	4
C132, 232		QET41HR-474N	"	0.47 μF 50 V	2
C134, 234, 135, 235		" -335N	"	3.3 μF "	4
C143, 243		" -104N	"	0.1 μF "	2
C144, 244, 917		QET41ER-226N	"	22 μF 25 V	3
C146, 246		QCY12HK-221	C. Capacitor	220 pF 50 V	2
C162, 262		QFM41HJ-154	M. Capacitor	0.15 μF "	2
C166, 266		QCS12HJ-151	C. Capacitor	150 pF "	2
C173, 273		QFM41HJ-102	M. Capacitor	0.001 μF "	2
C174, 274		QCS11HJ-681	C. Capacitor	680 pF "	2
C175, 275		" -201	"	200 pF "	2
C901		QET41ER-227N	E. Capacitor	220 μF 25 V	1
C902, 904		QET41HR-475N	"	4.7 μF 50 V	2
C903		" -106N	"	10 μF "	1
C905		QET41ER-475N	E. Capacitor (Low Leak)	4.7 μF 25 V	1
C907, 909, 922		QET41ER-107N	E. Capacitor	100 μF "	3
C911		QFP82AJ-103	Polypropylene Capacitor	0.01 μF 100 V	1
C912, 906, 914		QFM41HJ-472	M. Capacitor	0.0047 μF 50 V	3
C913		QET41AR-107N	E. Capacitor	100 μF 10 V	1
C915		QFM41HJ-153	M. Capacitor	0.015 μF 50 V	1
C916		QCF11HP-103	C. Capacitor	0.01 μF "	1
C918		QFP82XJ-152	Polypropylene Capacitor	0.0015 μF	1
C919	⚠	QET41ER-477N	E. Capacitor	470 μF 25 V	1
C920		QFM41HJ-103	M. Capacitor	0.01 μF 50 V	1
C921	⚠	QET41ER-337N	E. Capacitor	330 μF 25 V	1
C923	⚠	QET41VR-477N	"	470 μF 35 V	1
C924, 925		QCF12HP-103	C. Capacitor	0.01 μF 50 V	2
D901, 902		OA90	Diode		2

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
D903, 904, 906, 908, 910, 911, 912, 919		MA150	Diode		8
D905		RD6.8E(B)	Zener Diode		1
D918	⚠	RD18E(B3)	"		1
D914–917	⚠	10E2-B	Diode		4
X101, 201, 102, 202		2SC1980(S,T,U)	Transistor		4
X103, 203		2SC1684(Q,R,S)	"		2
X104, 204, 105, 205		2SC1327(T,U)	"		4
X106, 206, 109, 209		2SC1684(Q,R,S)	"		4
X107, 207		2SC1684(R,S)	"		2
X110, 210		2SC2001(L,K)	"		2
X111, 211		2SC1327(T,U)	"		2
X901		2SA921(T,U)	"		1
X902–905, 907		2SC1684(Q,R,S)	"		5
X906		2SA564(R,S)	"		1
X908, 909		2SC1318(Q,R)	"		2
X910		2SC1684(R,S)	"		1
X911	⚠	2SC2209(Q,R)	"		1
IC101, 201		AN7362N	I.C.		2
IC901		UPC4557C	"		1
L101, 201, 102, 202		VQP0001-183S	Inductor		4
L103, 203		" -562S	"		2
		VYH4514-001D	Shield Case		4
L901		VQP0001-102S	"		1
		VYH4514-002	"	for T901	1
T901		VQH1009-018	"		1
		QSP0258-052	Push Switch Ass'y	Music Scan, Tape Select ANRS	1
		VMJ6003-001	Jack Ass'y	PIN	1
CN901		QMV5005-006	Plug Ass'y	R/P Head	1
CN902		" -003	"	E. Head	1
		VMH4003-002	Heat Sink	Power IC	1
		SSSP3006ZS	Screw		1
		E43727-002	Wrapping Tab		24
		VMZ0005-001	Post Pin		4
X911		LPSP3008ZS	Screw		1
		E40130-001	Tab		6

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

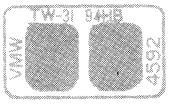
Mecha. Control P.W. Board Parts List

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
		VMW2528-101A	P.W. Board	No supply as parts ass'y	1
R501, 502		QRD147J-122S	C. Resistor	1.2 kΩ ¼ W	2
R503, 504		" -221S	"	220 Ω "	2
R506, 507		" -471S	"	470 Ω "	2
R518		QRD143J-101S	"	100 Ω "	1
R521		" -823S	"	82 kΩ "	1
R522, 551, 581		" -223S	"	22 kΩ "	3
R523, 525, 554, 569, 574		" -102S	"	1 kΩ "	5
R524, 526, 534, 537, 553, 578		" -333S	"	33 kΩ "	6
R527, 533, 577		QRD147J-182S	"	1.8 kΩ "	2
R528		QRD143J-391S	"	390 Ω "	1
R529, 531		" -561S	"	560 Ω "	2
R530		" -562S	"	5.6 kΩ "	1
R532, 561		" -271S	"	270 Ω "	2
R536, 550		" -472S	"	4.7 kΩ "	2
R540, 155–157, 562, 566, 577		" -103S	"	10 kΩ "	7
R541		QRD141J-181S	"	180 Ω "	1
R545, 158		QRD143J-183S	"	18 kΩ "	2
R546, 560, 565, 593, 544		" -153S	"	15 kΩ "	5
R547, 563		" -474S	"	470 kΩ "	2
R548		QRD147J-332S	"	3.3 kΩ "	1
R549		QRD143J-220S	"	22 Ω "	1
R552		" -273S	"	27 kΩ "	1
R559		" -331S	"	330 Ω "	1
R564		" -224S	"	220 kΩ "	1
R567		" -184S	"	180 kΩ "	1
R568		" -274S	"	270 kΩ "	1
R571	⚠	QRD149J-391S	Fail-safe C. Resistor	390 Ω "	1
R572	⚠	" -100S	"	10 Ω "	1
R575		QRD143J-152S	C. Resistor	1.5 kΩ "	1
R582		QRD147J-273S	"	27 kΩ "	1
R591		QRD143J-822S	"	8.2 kΩ "	1
R592		" -562S	"	5.6 kΩ "	1
		V44611-007	Bus Wire	5 mm	5
		" -006	"	7.5 mm	8
		" -008	"	10 mm	5
C501–506		QCF11HP-223	C. Capacitor	0.022 μF 50 V	6
C511		QET41AR-227N	E. Capacitor	220 μF 10 V	1
C512, 513		QET41HR-105N	"	1 μF 50 V	2
C521		QET41CR-337N	"	330 μF 16 V	1
C522		QET41HR-106N	"	10 μF 50 V	1
C523		QEN41EM-335N	"	3.3 μF 25 V	1
C524		QET41VR-336N	"	33 μF 35 V	1
C530, 537		QET41ER-476N	E. Capacitor	47 μF 25 V	2
C531		QFM41HJ-473	M. Capacitor	0.047 μF 50 V	1
C532		" -103	"	0.01 μF "	1
C533		" -683	"	0.068 μF "	1
C534		" -223	"	0.022 μF "	1
C535		QET41AR-476N	E. Capacitor	47 μF 10 V	1
C536		QET41HR-335N	"	3.3 μF 50 V	1
C538		QET41AR-227N	"	220 μF 10 V	1
C539		QET41HR-105N	"	1 μF 50 V	1
C540		QET41CR-338N	"	3300 μF 16 V	1
C541		" -226N	"	22 μF "	1
C561		" -476N	"	47 μF "	1
D507, 508, 510–516, 522, 526, 529		DS442	Diode		12

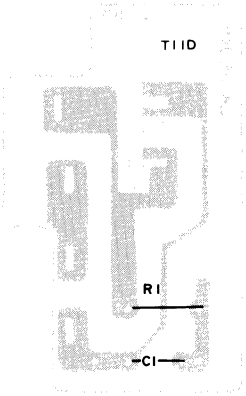
Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
D517–521		1S188FM1	Diode		5
D523	⚠	RD8.2E(B)	Zener Diode		1
D524	⚠	RD5.6E(B3)	"		1
D525		10E1-B	Diode		1
D527, 528		DS442	"		2
D531, 532		1S188FM1	"		2
D530, 535–537, 539, 540		DS442	"		6
X501–503, 505–512, 515–517, 519, 520, 531		2SC536(G,H)	Transistor		17
X504, 514		2SD400(E,F)	"		2
X513, 521		2SD612K(E,F)	"		2
IC502		VUC0002-001	I.C.		1
IC503		BA6208A	"		1
IC504		M74LS03P	"		1
IC505		M74LS38P	"		1
IC506		BA335	"		1
CN503		QMV5004-003	Plug Ass'y		1
CN501		" -012	"		1
CN502		" -008	"		1

Other P.W. Board Parts

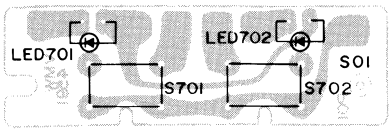
LED
VMW4592-002



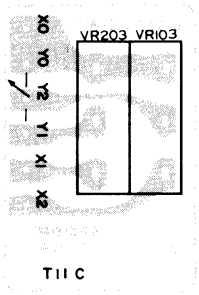
Power Switch
VMW1546-101D



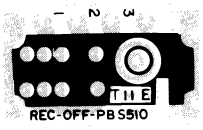
LED Indicator Ass'y (2)
VMW4591-002



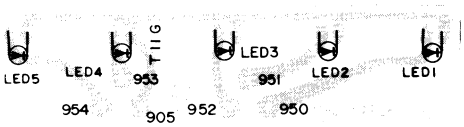
Input Volume
VMW1546-101C



Timer Switch
VMW1546-101E



LED Indicator Ass'y (1)
VMW1546-101G



Music Scan
VMW1546-101H

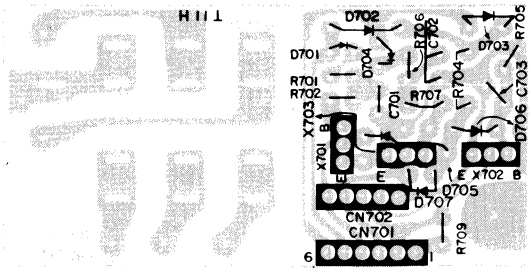
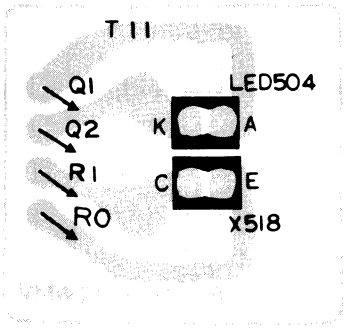
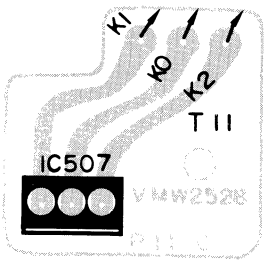


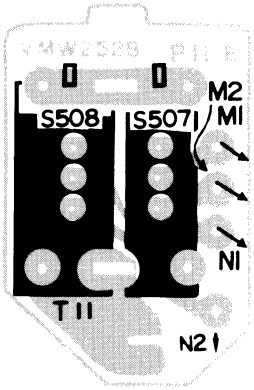
Photo Transistor
VMW2528-101C



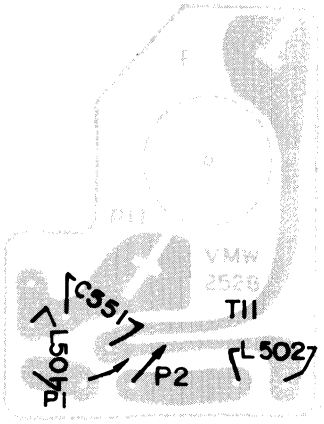
Hall IC
VMW2528-101D



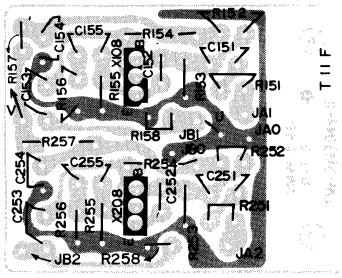
Push Switch
VMW2528-101E



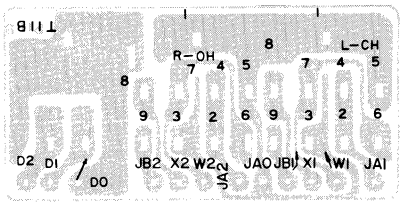
Reel Motor
VMW2528-101F



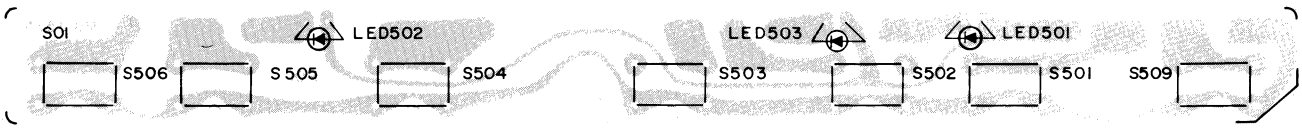
Mic Amp
VMW1546-101F



Mic Jack
VMW1546-101B



Touch Switch
VMW3535-003



Other P.W. Board Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
(LED)					
		VMW4592-002	P.W. Board	Back Light	1
		LD-702	LED		1
(Power Switch)					
		VMW1546-101D	P.W. Board		1
	⚠	QSP1110-305	Push Switch	D-E5A/E	1
	⚠	" -305BS	"	D-E5B	1
	⚠	" -308	"	D-E5C/J	1
	⚠	" -306	"	D-E5U	1
C1	⚠	QCZ9014-103	C. Capacitor	D-E5C 0.01 μF	1
	⚠	QFZ9010-103	"	D-E5B 0.01 μF	1
R1		QRD149J-820S	C. Resistor	82 Ω ¼ W	1
		E40130-001	Tab		2
(LED Meter)					
R143, 243		QRD147J-472S	C. Resistor	4.7 kΩ ¼ W	2
C145, 245		QET41HR-105N	E. Capacitor	1 μF 50 V	2
C906		QET41ER-336N	"	33 μF 25 V	1
IC902		LT-1011	LED Module		1
CN903		QMV5005-008	Plug Ass'y		1
(LED Indicator Ass'y [1])					
		VMW1546-101G	P.W. Board	Tape Select NR	1
		GL-9NG923	LED		5
(LED Indicator Ass'y [2])					
		VMW4591-002	P.W. Board	M. Scan	1
		QSP0021-101	Touch Switch		2
		GL-9NG910	LED		2

No. 4194

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
(Input Volume)				
	VMW1546-101C	P.W. Board		–
VR103, 203	QVE5A3A-024F	V. Resistor	20 kΩ	1
(Timer Switch)				
	VMW1546-101E	P.W. Board		–
	QSS2301-102	Slide Switch		1
(Touch Switch)				
	VMW3535-003	P.W. Board		1
	QSP0021-101	Touch Switch		7
	GL-9NG910	LED		2
	GL-9PR10	"		1
(Music Scan)				
	VMW1546-101H	P.W. Board		–
R701, 706	QRD143J-183S	C. Resistor	18 kΩ ¼ W	2
R702, 707	" -103S	"	10 kΩ "	2
R704	" -472S	"	4.7 kΩ "	1
R709	" -151S	"	150 Ω "	1
R705	" -104S	"	100 kΩ "	1
C701, 702, 703	QET41ER-226N	E. Capacitor	22 μF 25 V	2
X701–703	2SC1684(R,S)	Transistor		3
D701–707	MA150	Diode		7
CN701	QMV5005-005	Plug Ass'y	To Control	1
CN702	" -006	"	To SW	1
(Photo Transistor)				
	VMW2528-101B	P.W. Board		–
X518	PN202S	Photo Transistor		1
LED504	TLR108D	LED		1
	VKZ4135-001	Spacer		1
	VYH4450-001	Photo Shell		1
(Hall IC)				
	VMW2528-101C	P.W. Board		–
IC507	DN6835	Hall IC		1
(Solenoid)				
	VMW2528-101D	P.W. Board		–
D538	10E1	Diode		1
(Push Switch)				
	VMW2528-101E	P.W. Board		–
S507, 508	QSP0029-001	Push Switch		2
(Reel Motor)				
	VMW2528-101F	P.W. Board		–
C551	QCF11HP-103	C. Capacitor	0.01 μF 50 V	1
L501, 502	VQP0004-231	Indicator		2
(Mic Amp)				
	VMW1546-101F	P.W. Board		–
R151, 251	QRD143J-820S	C. Resistor	82 Ω ¼ W	2
R152, 252	" -334S	"	330 kΩ "	2
R153, 253	" -473S	"	47 kΩ "	2
R154, 254	" -223S	"	22 kΩ "	2
R155, 255, 157, 257	" -332S	"	3.3 kΩ "	4
R156, 256	" -680S	"	68 Ω "	2
R158, 258	" -104S	"	100 kΩ "	2
C151, 251	QEB41HM-335M	E. Capacitor (Low Leak)	3.3 μF 50 V	2
C152, 252	QCS11HJ-471	C. Capacitor	47 pF "	2
C153, 253	QEB41HM-105M	E. Capacitor (Low Leak)	1 μF "	2
C154, 254	QET41ER-336N	E. Capacitor	33 μF 25 V	2
C155, 255	QET41AR-476N	"	47 μF 10 V	2
X108, 208	2SC1327(T,U)	Transistor		2
	VMW1546-101B	P.W. Board		–
	VMJ5004-003	Mic & Phones Ass'y		1

Maintenance

To get long, trouble-free service, maintenance is important. Do not forget cleaning and demagnetizing.

Cleaning

After long use, the heads and tape part – capstan, pinch roller, etc. – will become dirty with dust or magentic particles. Dirty heads cause imperfect erasing or high frequency drop-off. A dirty capstan and pinch roller will cause unstable tape speed, leading to increased wow and flutter. Always keep them clean by following the procedure below.

1. Heads

1) Push Eject button to open the cassette holder.
2) Use the head cleaning stick provided to wipe the surface where the tape comes into contact with the head. (It is effective to moisten the cotton with alcohol.)

2. Pinch roller and capstan

Do the same method as heads.

3. Cabinet

When the cabinet becomes dirty, wipe it with a soft cloth soaked with a neutral cleaning solution of a polishing cloth.

* Do not use thinner or benzine.

Demagnetizing

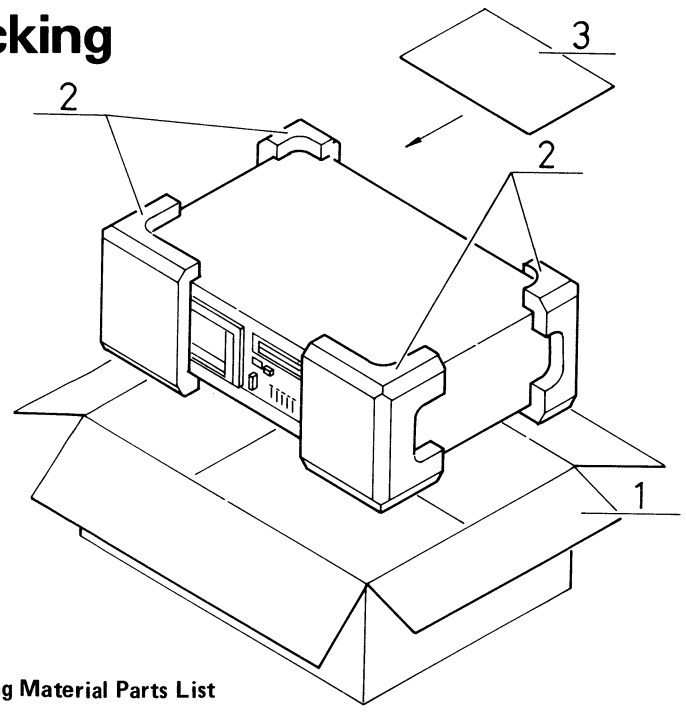
The heads are made from a material resistant to magnetization, but after long use they become magnetized.

A magnet brought into their vicinity can magnetize the heads, causing excess noise. If noise seems to have increased, demagnetize the heads with a head demagnetizer through the following procedure.

1. Turn the POWER switch OFF.
2. Wrap the tip of the demagnetizer with vinyl tape or soft cloth so as not to damage the head surface. Switch on the demagnetizer and bring it close to the head.
3. Move the tip of the demagnetizer slowly first to the left and right, then up and down in front of the head. Gradually move it away from the head and switch it off at a distance of more than 30 cm (12").
4. The erase head need not be demagnetized. The capstan shaft and tape guide should be demagnetized in the same way as the record/playback head.

* Do not bring a magnetized metallic object (a screwdriver, for example) near the head as this will increase noise.

Packing



Position of control and switch knobs at renew packing

Power switch	:	OFF
Timer switch	:	OFF
Music scanning switch	:	OFF
Tape counter	:	000 (Push the reset button.)
Tape select switch	:	SF/NORM
ANRS switch	:	OFF
REC level control	:	MIN.
Mecha. operation buttons	:	OFF

Packing Material Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1–2	VDP2074-002A	Packing Carton Ass'y	D-E5A/B/E/J/U	1 set
1–2	" -003A	"	D-E5C	1 set
1	" -J02	Carton	D-E5A/B/E/J/U	1
1	" -J03	"	D-E5C	1
2	VPH3116-001	Cushion	Left	1
2	VPH3117-001	"	Right	1
	QPGA050-06005	Envelope	for Cassette Deck	1
	AP4056A-036	"	for Power Cord, Provided Cord	2
3	AP4056B-077	"	for Instruction Book	1
	TKS000501-01	Sheet	for Cassette Deck	1

Accessories

Parts No.	Parts Name	Remarks	Q'ty
VMP0002-00B	PIN Cord		2
VYA4001-00A	Head Cleaning Stick		1
VNN0073-301	Instruction Book	D-E5B/E	1
VNN0073-901	"	D-E5A/C/J/U	1
BT20029B	Warranty Card	D-E5A	1
VND4013-001	Warning Label	for Disconnection D-E5A/B/E	1
T46328-003	Caution Card	for Voltage Selector D-E5A/B	1
VND4016-001	Metal Sticker		1
BT20013C	Guarantee Certificate	D-E5B	1
TJL000443-01	Seal	for F. Plate (Made in Japan) D-E5B	1
QZL1102-003BS	Warning Label	for Power 2-pin Cord D-E5B	1
VNC5004-001	Mark Sticker	D-E5B/E	1
BXN750110UU	JVC Microphone Guide	D-E5B/E	1
BT20025D	Warranty Card	D-E5C	1
T44362-001	CSA Marker	D-E5C	1
TLT000505-01	UL/CSA Caution Label	D-E5C/J	2
T46328-005	Caution Label	D-E5C	1
" -004	"	D-E5E	1
BT20032B	Warranty Card	D-E5J/U for PX, EES	1
BT20044B	Safety Instruction	D-E5J	1
BT20042	Special Reply Card	D-E5J/U for PX, EES	1
E7795-1	EP Mark	D-E5U for PX, EES	1
V04062-001	Siemens Plug	D-E5U	1
T46328-001	Caution Label	D-E5U	1
VNC5311-101	Caution Card	for EES D-E5U	1

JVC
VICTOR COMPANY OF JAPAN, LIMITED.
RADIO & RECORDING MACHINE DIVISION 10-1, 1-chome, Ohwatari-cho, Maebashi-city 371, Japan

Printed
—5512